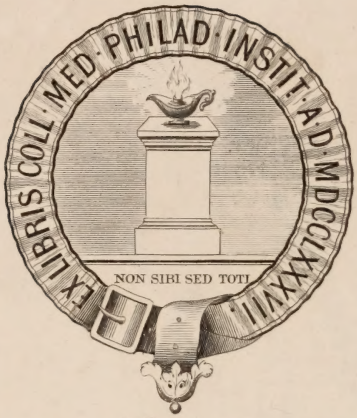
15305



No.

IN EXCHANGE.

Digitized by the Internet Archive
in 2014

https://archive.org/details/chicagomedicaljo4218unse

LIBRARY OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE

CHICAGO MEDICAL

Journal and Examiner.

EDITORS:

N. S. DAVIS, M.D., LL.D. JAS. NEVINS HYDE, A.M., M.D.,

DANIEL R. BROWER, M.D.

VOLUME XLII,

JANUARY TO JULY, 1881.

CHICAGO MEDICAL PRESS ASSOCIATION. AUG. 2D 1875.

CHICAGO:
CHICAGO MEDICAL PRESS ASSOCIATION.
1881.

LIBRARY COLL. OF PHYSICIANS 64/23/24

TUCKER,
NEWELL & CO.
PRINTERS.

INDEX TO VOLUME XLII.

A.

PAGE.

Abscess, alveolar, by E. S. Talbot, M.D. 23
Abscess of liver, acute, recovery, S. J. Holmes 273
Address of President of Chicago Gynæcological Society, Wm. H. Byford 13
Address, inaugural, Mary Putnam Jacobi 561
Allport, W. W., response to toast, "Dentistry and Dental Education" 361
Amblyopia from disuse 654
American Graduates in Medicine 559
Analgesia, surgical, Dr. Bossis. 206
Anæsthetic, chloral as an, for children 208
Aneurism—aortic, B. C. Gudden, 491
Ante-partum hæmorrhage—case of spontaneous, G. Frank Lydston 357

B.

Beaconsfield and his physicians, J. I. Tucker 487
Belfield, W. T., Foreign Correspondence, Vienna Letter 55
Books and Pamphlets Received, 67, 168, 303, 530
Byford, Wm. H., Address of President of the Chicago Gynæcological Society 13

C.

Cancer of the breast, case of, recovery after removal, by W. H. Fox 148
Carbolic acid, action of upon ciliated cells and white blood cells 203
Catarrhal diathesis in young girls 658
Cautery, use of actual, in ulceration of cornea, Dr. Fuchs, Vienna 68
Census Bulletin 334

PAGE.

Cervical portion of the sympathetic, experiments on the, M. Gasselein 200
Chemistry, physiological, fowl cholera 194
Chicago Biological Society 498
Chicago Medical College, Commencement 553
Chicago Medical Society ...500, 508
Children, nocturnal terrors in .. 208
Chloral as an anæsthetic for children 208
Chloral hydrate, by H. H. Kane 35
Chloral hydrate in tetanus, H. H. Kane 242
Chloroform, three deaths from. 187
Clinics ...112, 224, 333, 448, 560, 672
Congenital displacement of the lens 652
Cook County Hospital 494
Cornea, ulceration of, use of actual cautery in, Dr. Fuchs, Vienna 68
Correspondence, Foreign:
Vienna letter, W. T. Belfield, 55
Vienna letter, W. T, Belfield. 290
Letter from China, Kate C. Bushnell 513
Vienna letter 636
Correspondence, Domestic:
Philadelphia letter 58
New York letter .....
Boston letter 149
Letter from Greenwood, Wis.. 157
Letter from Bloomington, Ill. 158
New York letter 281
Correspondence, Domestic:
Iowa letter 375
Boston letter 521
New York letter 638
Cotton pellet as an artificial drumhead, Dr. H. Knapp 665
Cystitis, lactic acid in chronic .. 207

D.

Deadwood (Dakota), Medical Society, list of members 111

15305

PAGE.

Davis, Dr. N. S., examination of the sick 1
Davis, Dr. N. S., clinical lecture on erysipelas and diphtheria. 234
Delirium Tremens and acute delirium, treatment of, Dr. Rosseau 330
Diphtheria, salt as a prophylactic in 223
Diphtheria and erysipelas, clinical lecture by Dr. N. S. Davis, 234
Diphtheria, some points in, C. J. Lewis 347
Diphtheria, the bacterium of, Ch. Talamon, translation 397
Diphtheria, some points in, A. T. Conley 622
Displacement, uterine, curability of, P. O'Connell 128
Dyspepsia, gouty, Germain Sée, translation 510

E.

Editorial:
American Medical College Association 69
Medical legislation, adulteration of food, curiosities in medical teaching, changes in medical journals 170
W. W. Allport on dental education 392
Editorial 644
Editorials, condensed from the medical press 532
Education, a review of the progress of medical, in Chicago, E. Ingals 136
Epileptic, mental state of the... 218
Epilepsy and crime 374
Errata 278
Erysipelas and diphtheria, clinical lecture by N. S. Davis 234
Ethyl bromide, internal administration of 51
Etiology of phthisis, Dr. Ed. Labbé 436
Examination of the sick, by N. S. Davis 1

F.

Face, the human, modifications in health and disease, and value as guide in diagnosis, A. L. Ranney 77
Foreign substance in trachea... 187
Fox, Wm. H., case of cancer of the breast, recovery after removal 148

PAGE.

G.

Gardiner, E. J., a case of iritis serosa 133
Gross, Dr. S. D., clinical lecture, 230
Gynæcological Society of Chicago, address of the president, Wm. H. Byford 13

H.

Hæmorrhage, case of spontaneous ante-partum, G. Frank Lydston 357
Hip joint disease, a point in treatment of, Norris H. Chapman 359
Homatropine in ophthalmic practice, F. C. Hotz 122
Hotz, F. C., homatropine in ophthalmic practice 122
Hyde, J. Nevins, pityriasis rubra 113
Hydrophobia 213
Hydrobromate of morphia 391
Hydrorrhœa Gravederum 446

I.

Illinois State Medical Society.. 552
Index to Vol. XLI 114
Ingals, E., review of progress of medical education in Chicago, suggestions for its advancement 136
Injurious effects of vulcanized rubber, by L. O. Haskell 29
Iritis serosa, a case of, E. J. Gardiner 133

J.

Jacobi, Dr. A., clinical lecture by 225
Jacobi, Mary Putnam, inaugural address 561

K.

Kane, H. H., chloral hydrate... 35
Kane, Dr. H. H., chloral hydrate in tetanus 242
Keith, Thomas, ovariotomy, Dr. J. Marion Sims 319

L.

Lactic acid in chronic cystitis... 207
Lecture, clinical, by Dr. A. Jacobi 225
Lecture, clinical, by Dr. S. D. Gross 230
Lydston, G. Frank, œdema glottitis, difficult laryngotomy... 47

M.

Maternal impression, wonderful case, if true 559

PAGE.

Mental state of the persecuted, translated by H. D. Valin... 188
Mercy hospital, surgery in... . 52
Metastasis of mumps..... 279
Michigan State Board of Health, report of meeting..... 159
Mortality Report..... 444
Myopia, statistics of, Dr. O. Just, 654

N.

Nasal catarrh, B. T. Mouser.... 430
Nervous diseases, migraine, Dr. Thos. Lathrop..... 305
Nicitating, membrane in man.. 241
Nocturnal terrors in children.. 208
Notice, special..... 304

O.

Obituary, M. O. Heydock, Isaac Ray, Geo. Alexander Otis.... 549
Œdema Glottidis, cellulitis of neck, accompanied by, G. F. Lydston..... 47
Œsophagism 447
Ophthalmological and otogical literature, abstract of..... 652
Ovariotomy, Thos. Keith and Dr. J. Marion Sims..... 319

P.

Paralysis, three peculiar cases of, H. D. Valin..... 267
Pathognomonic sign of fracture of neck of the femur..... 525
Pityriasis Rubra, J. Nevins Hyde..... 113
Phosphate of Bismuth, Therapeutic use of..... 332
Physician's leisure, a plea for the study of archæology, Dr. Cheevers..... 542
Physician's leisure, a plea for the study of archæology, Dr. Cheevers..... 660
Physiological chemistry, fowl cholera..... 194
Phytolacca decandra, W. C. Westerfield 353
Pilocarpine, its effects on syphilis..... 445
Pregnancy, duration of normal human, P. O'Connell, M.D.... 337
Progress of medical education in Chicago, review of, suggestions for its advancement, E. Ingals 136
Progress of medicine in the Western States 428
Prophylactic, salt as a, in diphtheria..... 223

PAGE.

Prostate, surgical treatment of hypertrophied..... 207
Prussic acid in tobacco smoke.. 217
Psychiatry, a physician's problems in..... 316
Public health, quarantine..... 75
Pyæmia following mastoid abscess..... 655
Pygopagi, the..... 291
Pyrosis or water brash, treatment of..... 557

Q.

Quarantine and public health.. 75
Quarantine in diphtheria 429
Quinine amaurosis..... 653

R.

Ranney, A. L., the human face, modifications in health and disease, value as a guide in diagnosis 77
Reports of societies:
West Chicago Medical..... 292
Michigan State Board of Health..... 159
Chicago Medical Society..... 371
West Chicago Medical Society..... 372
Chicago Biological Society .. 626
Resection of small intestine, recovery..... 434
Reviews and Book Notices..... 63, 163, 294, 385, 526, 644
Rubber, injurious effects of vulcanized, by L. P. Haskell.... 29
Rush Medical College... 439

S.

Sanitary Convention 280
Scotch introductory addresses, S. D. Campbell Black..... 407
Selections..... 402
Sick, examination of the, by N. S. Davis..... 1
Skene, J. C., diseases of the glands of the female urthra.. 177
Society meetings..... 112, 224, 333, 448, 560, 672
Society Reports:
Chicago Medical Society.... 630
West Chicago Medical Society..... 634
Spinal Bifida, treated with plaster of Paris..... 384
State Board of Health of Illinois..... 378
State Board of Health of Michigan..... 504
Statistics of medical journals.. 558

PAGE.

Stretching the facial nerve for relief of spasms of facial muscles 313
Suppositories, beef 54
Surgery in Mercy Hospital 52
Surgical analgesia, Dr. Bossis .. 206
Sweating, morbid 210

T.

Tetanus, chloral hydrate in, Dr. H. H. Kane 242
Tetrachloride of carbon, aromatic 393
Texas, mountain region of Western, as a health resort, F. C. Lawrence 287
The thermograph, its evolution and destiny, A. Wellington Adams 412
Therapeutics, advance in, during 1880 370
Trachea, foreign substance in .. 187

PAGE.

Translations, latest experiments with virus of hydrophobia, by Bouley and Pasteur 394

U.

Urethra, diseases of the glands of the female, J. C. Skene 177
Uterine displacement, curability of, P. O'Connell 128

V.

Vaccine virus, O. C. DeWolf .. 481
Venereal outrages, simulations of, on young children 221

W.

Whooping cough, treatment of by inhalations of spirits of turpentine 222
Woman's Medical College 293

Y.

Yellow fever, H. D. Schmidt .. 449, 585

THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLII.—JANUARY, 1881.—No. 1.

Original Lectures.

ARTICLE I.

LECTURE VI, IN THE COURSE ON PRACTICAL MEDICINE IN THE CHICAGO MEDICAL COLLEGE, MEDICAL DEPARTMENT NORTHWESTERN UNIVERSITY. By N. S. DAVIS, M.D., LL.D.

The Examination of the Sick—By Inspection, Oral Question, Palpation or Touch, Instrumental aid; The Principles of Diagnosis; Therapeutic Methods, etc. Reported by L. Stone, Stenographer.

One of the most delicate and important duties of the physician is to examine his patient. The object of such examination is to ascertain the location, extent, nature, stage of progress, and coincident derangements, of whatever disease or diseases may afflict the patient, together with the causes that may have been efficient either in producing it or perpetuating its existence. To accomplish this object fully, requires, on the part of the practitioner, patience; kindness; gentleness of manipulation; close, undivided attention; the mental discipline that gives quickness of perception, and accuracy of comparison and induction; with

that easy boldness which quietly assumes nothing to be immodest that is necessary for a full understanding of the nature and extent of the disease, and yet which sacredly avoids all not thus necessary. To place the patient at ease and at the same time secure attention, it is best to commence the examination with a few leading questions, such as, How long have you been unwell? How did your sickness commence? Do you suffer much pain; and if so, where? Is it sharp, dull, burning, constant, or paroxysmal? Having thus introduced the examination far enough to allow any feeling of trepidation or embarrassment that might have been felt by the patient to have subsided, and at the same time to have obtained an outline of his particular suffering, you should, without apparent design, pass directly to a methodical examination so complete as to elicit a correct knowledge of all the important functions and processes performed in the system. By simple inspection you observe the physiognomy or expression; the hue of the skin; the position or attitude; voluntary and involuntary movements; general contour or relative development of parts; and the particular appearance of the tongue, with such other parts as may be the seat of special complaint. All this, except the last two items, may be accomplished while proceeding with the oral part of the examination.

After the leading introductory questions already suggested, the further prosecution of the oral examination should take such direction as to elicit as full an account of the several important functions as the patient is capable of giving. Perhaps the most natural and easy method is to interrogate, consecutively, concerning the organs engaged in the work of digestion, assimilation and nutrition; those engaged in the opposite process of disintegration and excretion; then those constituting the nervous system, both cerebro-spinal and ganglionic; and finally, those concerned in reproduction, especially in females past the age of puberty. When the patient is too young or too sick to answer properly the necessary inquiries, the same should be directed to the nurse or whoever has immediate care of the patient. There are some diseases, like those of a typhoid character, that always blunt more or less the sensibilities of the patient, and often render the manifestations of mind so inactive as to cause very im-

perfect or erroneous answers to be given. In other cases we have just the opposite, namely, such an increase of nervous sensitiveness as to cause the most extravagant expressions and wildest exaggerations. It is proper and desirable always to have the nurse or some reliable member of the family present during the examination of such patients, because they will greatly assist in correcting erroneous statements and in supplying defects in the patient's memory. And it is a good rule in all delicate cases, and such as involve apparent mental derangement, to have a free confidential interview with the nurse alone, during which you can canvass the statements and condition of the patient, without danger of either exciting his suspicions or his anger. I need not say that this should be done entirely out of sight and hearing of the patient. Nothing so quickly excites the fears or the suspicions of a conscious patient, as private conversation or *whispering* in his room. All conversation in the presence of the sick should be in a mild, kindly tone of voice, just loud enough to be easily understood, but wholly free from all abrupt and boisterous qualities. The correctness of the information obtained from patients will depend much on the manner in which questions are asked. If they are too general in their character, the patient will often fail to comprehend their full meaning and give erroneous answers in consequence. For instance, many, when asked if their food digests well, answer promptly, yes; and yet, when asked more particularly, acknowledge that the food often lies heavy in the stomach after eating, or that they have frequent belching of gases, and sometimes acid eructations. So, too, in regard to excretions, I have seen many patients, who, when asked "if their bowels were regular?" answered without any hesitation, "yes, they are all right." But when asked specifically how often they had a fæcal evacuation, some said, once in three or four days; others, three or four times every day; while others said once a day. The better way is to ask directly how often the patient has an evacuation from the bowels, and what is the color and consistence of the evacuation. The some rule is still more necessary in obtaining a knowledge of the renal secretion. Unless their attention has been previously called to the subject, many patients will not be able to give a reliable statement either as to the

quantity or quality of the urine, but will answer in general terms that they think it is about natural. Others will say they "make a great deal more" than natural, when they really make it very *often*, but only a little at a time. Patients laboring under low forms of fever and paralytic affections, not unfrequently have either partial or complete paralysis of the muscular coat of the bladder. This is liable to cause, first, retention until a certain degree of distention of the bladder, and then dribbling so as to keep the clothing wet, or the passage of only a few spoonfuls at a time. In all such cases, in addition to careful inquiries of the nurse, the physician should daily examine the hypogastric region sufficient to determine whether the bladder is distended or not. I have known a neglect of this latter rule to lead to several serious mistakes. It is only a few weeks since that I was requested to see a young man reported to be very dangerously sick from disease of the brain. On calling at the house, I met the attending physician, and after listening to a brief history of the case, entered the sick man's room. The patient was entirely comatose; chin dropped; pupils a little dilated; breathing irregular; skin clammy; pulse frequent and very feeble; and frequent irregular muscular twitchings. The latter with a strong urinous odor about the bed, caused me to inquire whether the patient had passed his water regularly? The attending physician answered in the affirmative. Turning to the nurse, I asked *when* he passed his water last? The answer was, "he passes it every little while, and his bed is wet now." How long has he passed his water in the bed? I inquired, at the same time passing my hand down over the region of the bladder. "Three days," was the reply. The hand at once detected a great degree of fullness in the hypogastrium, which further examination proved to be owing to the presence of a bladder so distended that its fundus reached the umbilicus. The introduction of a catheter gave exit to an ordinary chamber vessel full of ammoniacal urine. The attending physician, not a little chagrined, excused himself by saying he had not examined the region of the bladder because the nurse had assured him every day that the patient had passed his water freely. In most cases of chronic disease presenting obscure questions in relation to their pathology, and especially if accom-

panied by serous or dropsical effusions, the physician should directly examine the urine, aided both by chemical tests and the microscope.

Palpation or Touch. While the acquisition of an easy, systematic, and accurate method of oral examination, is of great importance to the physician, it is never sufficient to give him a full and correct knowledge of the condition of his patient, without the aid of direct contact or touch. By the latter we gain a knowledge of the temperature and other qualities of the skin; the state of the circulation as indicated by the force, frequency, and regularity of the pulse; the fullness and regularity of respiration; the tension or flaçidity of muscles; the existence of hyperæsthesia and anæsthesia; the existence or non-existence of indurations, enlargements, tumors, abscesses, dropsical effusions, etc., and the physical condition of the parts within the chest and the abdomen. In young children, and in patients of all ages whose mental perceptions are disordered by disease, direct physical examination coupled with inspection constitute our chief means for acquiring a knowledge of the morbid conditions under which they may be laboring.

Instrumental Aid. To render this part of the examination of patients more complete, various instruments have been constructed, some of which are of great practical value. The ophthalmoscope; otoscope; rhinoscope; laryngoscope; stethoscope; microscope; sphygmograph; thermometer; urinometer; speculums; with test tubes, spirit lamp, and chemical re-agents, constitute the chief instruments which the physician of to-day may bring to his aid in determining the existence, nature, stage of progress, and tendencies of disease.

I do not say that a physician cannot acquire skill, and even superior skill, both in the diagnosis and treatment of disease, without familiarity with the use of many, and perhaps all of these instruments; yet it must be admitted that each one of them, properly used, is capable of adding both to the extent and accuracy of our knowledge concerning the morbid conditions it is designed to aid in investigating. It is desirable, therefore, that every general practitioner should be familiar with the use of all these instruments, and, as far as practicable, keep them con-

stantly within his reach. No detailed descriptions, or illustrative drawings, can give you an adequate knowledge of the articles themselves, or of their practical application. Such knowledge can be obtained only by direct examination and actual clinical use. Happily for you, as a class, the daily hospital and dispensary clinics which constitute a prominent part of the course of instruction in this institution, will give you ample opportunities for becoming acquainted, individually, with the practical application of every instrument and appliance that may aid in the examination and treatment of the sick. As already intimated, the primary object of all our examinations of the sick, is to ascertain whether they are afflicted by disease, and if so, its nature, extent, duration, etc. In other words, to arrive at as full and complete a diagnosis as possible.

But what constitutes a complete diagnosis? Certainly not the mere classification or naming of the disease; for a very superficial examination may enable the practitioner to determine that a patient has typhoid fever, pneumonia, or rheumatism, and yet leave him with a very imperfect knowledge of the pathological changes that had taken place in the solids and fluids of the body. A full and practical diagnosis in any given case embraces: first, a knowledge of the general nature of the disease; second, the pathological changes that have taken place, which determine the stage of advancement; third, the nature and extent of the complications, if any, that have supervened; and fourth, the physical and mental condition and habits of the patient prior to the present sickness. The first of these items gained, will enable you to name the disease; the second and third to clearly comprehend the present pathological condition of the patient and found thereon rational indications for treatment; while the fourth will often enable you to anticipate the tendency or direction which other changes will take during the further progress of the case.

The making of a full, practical diagnosis is, therefore, the most important, and often the most perplexing of all the duties devolving on the medical practitioner. If he succeeds in obtaining a clear and correct knowledge of the nature, progress and tendencies of the disease under which his patient is laboring, it

requires but a short and easy process of induction, to arrive at the rational indications for treatment. That is, to determine what needs to be done for the purpose of either mitigating or curing the disease, and re-establishing the health of the patient. And having determined thus logically the indications for treatment which the case requires, a competent knowledge of the principles of hygiene, and of the materia medica, will readily suggest the best means for fulfilling the indications presented. I say a competent knowledge of the principles of *hygiene* as well as of materia medica, because I hope none of you will make so great a mistake, as to suppose the treatment of disease consists solely in the administration of drugs.

A large part of the diseases coming under the care of the physician, are caused by errors in diet, drinks, clothing, ventilation and other matters included under the term hygiene; and no one can attain the highest degree of success as a practitioner, who does not fully appreciate the importance of careful attention to the hygienic influences affecting his patients.

The object of such attention is two-fold: namely, to remove or correct such erroneous habits and conditions as may be still acting as causes; and the substitution of such as will positively aid in the restoration of the patient. A comfortable temperature; a sufficient supply of fresh, pure air; cleanliness; a careful adaptation of the quantity and quality of food and drink to the capacity of the digestive organs to receive and assimilate it; and a quiet, cheerful, hopeful mental influence, are hygienic conditions of universal applicability in the management of the sick. I by no means approve of the modern doctrines of *expectancy*, which assumes that diseases must run their natural course, and that *art* can do little more than properly regulate the hygienic conditions of the patient, and leave the rest to that intangible something called *nature*.

And yet I cannot too strongly urge upon you the importance of making yourselves thoroughly familiar with the facts and principles of public and personal hygiene, and constant attention to their application in the daily routine of practice. It would not be inappropriate to represent hygiene proper as bearing much the same relation to materia medica that physiology does to pathology.

Therapeutic Methods. Before closing this lecture I must invite your attention to a few thoughts concerning the principal therapeutic methods, or systems as they are sometimes called, that have found advocates among the leading members of the profession, in this and the preceding generation. Since the earliest periods of medical history, therapeutics, or the application of remedies in the treatment of diseases, have been made to conform more or less closely to the co-existing ideas or doctrines in relation to the nature of disease itself. When the nature and phenomena of diseases were regarded as dependent on certain chemical processes called concoction, fermentation, crises, etc., the prevalent therapeutic system was founded on corresponding chemical notions, and had for its leading objects the hastening of the supposed concoctions, the maturing of the morbid humors, and their expulsion or neutralization.

When the theories of vitalism gained the ascendency, and all diseases were regarded as involving either debility (direct or indirect), or irritation, the prevalent therapeutic ideas were soon found aggregated into two leading and opposing systems. The one, founded on the pathological doctrine of debility, had for its leading object *stimulation.* The other, suggested by the idea of irritation, excitement, etc., had for its purpose diminution of excitement by sedation and evacuation, and hence popularly termed antiphlogistic. During the first quarter of the present century the pathological doctrines of irritation and inflammation gained their most complete control over the mind and practice of the profession. Almost every morbid condition was referred to one or the other of these processes; and as a consequence bleeding, general and local, emetics, purgatives, and alteratives were in constant requisition in the treatment of even the most trivial ailments. But coincident with this supremacy of the antiphlogistic method in therapeutics, came the rapid development of organic chemistry; the application of the microscope to the study of minute anatomy, both healthy and morbid; and the discovery of the fact that many acute diseases were self-limited in duration and capable of progressing to recovery without the active interference of art. By the first, our knowledge of the composition and properties of the various morbid products, whether in the

tissues, the blood, or the secretions, was greatly increased; and the doctrines of exclusive vitalism began to yield to a recognition of zymotic and blood diseases. By the second, histological investigations were pushed in every direction, unfolding the minute anatomy of all structures, healthy and morbid, and culminating in the doctrine of *cell* growth as the basis of organic structures and the Cellular Pathology of Virchow. By the third, a distrust or skepticism concerning the curative powers of medicines was rapidly engendered, and a confidence in the restorative processes of nature correspondingly increased.

This tendency soon found marked expression in the writings of Jacob Bigelow, John Forbes, O. W. Holmes and others, and did not stop until it had effectually checked the heroic use of active remedial agents that had been developed under the preceding doctrines of inflammation and antiphlogistic therapeutics. Under these various influences the former theories or systems of medicine have been abandoned, and yet no other one law, either pathological or therapeutical, has succeeded in gaining any general control over the professional mind. The last twenty years have been characterized by great activity in the accumulation of facts, and the multiplication of experiments, in almost every department of medical science.

Indeed, it may be regarded as preëminently an era of observation and independent research, untrammeled by authority. And yet, you must not imagine that the present, with all its independence of thought, activity of observation, and vast accumulation of facts, is free from the influence of fanciful theories and bold attempts at generalization. The human mind, in the present, as in all the ages of the past, is not only prone to generalize—to frame hypotheses based on a limited number of facts, but having gained a favorite standpoint, to see all else through light radiating from that focus. Hence, the enthusiastic microscopist, after tracing all organized structures to formation out of primary cells and structural changes, whether healthy or morbid, to normal and abnormal cell evolutions, naturally enters upon the study of etiology with the favorite instrument in hand and soon finds organic germs, either animal or vegetable, in the blood, the secretions or the excretions of patients laboring under almost every variety of

disease. And these germs are at once heralded as the efficient cause of the diseases with which they are associated. It requires but a hasty glance over the medical literature of the day to see that we have a large class of writers and investigators who are already referring the origin and propagation of cholera, yellow-fever, influenza and other epidemics, as well as many of the endemics, to organic germs. As all these organic germs have their definite periods of development, maturity, propagation and decline, it is consistent and natural to infer that the diseases to which they give rise should also have a definite course to run, which cannot be materially altered by treatment. Hence the *therapeutic* doctrines of this class are fairly expressed in the words palliation and expectancy, while they place great emphasis on hygiene and preventive measures. Another class, with their stand-point of observation in the laboratory of the organic chemist, see in the living system only a complicated series of chemical actions and reactions, taking place in the blood, and between the constituents of that fluid and the organized tissues. So long as these processes are well balanced the evolution of caloric, electricity and nerve force is natural and health is preserved. But when, from any cause, the equilibrium is disturbed by some change in the chemical factors, the results are also abnormal and disease is established. By this class we have all the ancient doctrines of humoralism revived under the modern terms septicæmia, zymosis, blood degeneration, etc. Their therapeutics, are, of course, largely antiseptic and antidotal.

A third class have their stand-point of observation in the physiology and pathology of the nervous tissues, and they find little apparent difficulty in satisfying themselves, at least, that almost every variety of action that takes place in living matter, whether healthy or morbid, is under the control of nervous influence.* With such the chief end of therapeutics is to modify the various morbid conditions of structure and function in nerve matter.

But a fourth, and much larger class than either of the foregoing, possessing no definite scientific or theoretical stand point of observation, being swayed by the general current of reaction from

* See Brown-Séquard's Lecture in the Toner Course at Washington, D. C., 1873.

the antiphlogistic system, and captivated partly by the simplicity of the doctrine that all disease is a diminution of life,* and partly by the plausible eulogies of "nature" and *her* all-controlling power† over disease, they have become essentially skeptical in therapeutics, and content to regulate the hygiene of the sick-room, amuse the patient with placebos, and wait for "nature" to cure the disease. Or, more properly perhaps, wait for the disease to complete its course and disappear; for we find the greater part of this class not only skeptical in regard to the curative powers of medicines, but also firm believers in the doctrine that diseases have an independent existence marked by growth, maturity and decline, which makes them in a great measure independent of the influence of medication.‡ At a period when investigations are pushed with so much vigor, in every direction; when new facts are constantly appearing, and old facts are being presented in new aspects; and when so much that is recognized as a part of medical science is but partially or imperfectly known, it is not strange that our literature should be filled with contradictions, better calculated to bewilder than to enlighten the student.

And yet, gentlemen, if you will patiently study the views I have presented to you in the preceding lectures, concerning the elementary forms of disease, the methods of investigation, the indications for treatment, and the principles governing the application of remedies, you will be able to follow me in the study of special pathology and therapeutics, in such a way as to become rational and efficient practitioners; neither investing disease with the attributes of independent existence and self-limited duration, nor regarding the curative powers of medicine with a melancholy vacillating skepticism.

There is one fact in therapeutics that I wish to impress indelibly upon your minds. It is, that the special influence of any and every remedial agent depends much upon the actual condition of the patient at the time it is administered.

For instance, a remedy that, administered in health or in some conditions of disease, would produce a direct sedative or debilita-

* See Chambers.

† See Essays of Bigelow, Forbes and Holmes.

‡ See Dr. Gibson's Address before the British Medical Association in 1870.

ting influence; if given in some other conditions, would result in relieving the sense of oppression and weakness, and adding to the strength of the patient. All writers class veratrum viride, aconite and digitalis, among the sedatives, yet I have seen many patients so debilitated by insufficient oxygenation and decarbonization of the blood, caused by an irregular, tremulous action of the heart, that they could not walk across their room, who when placed enough under the influence of these articles to render the heart slow and steady in its beat, could walk or ride with ease. I have seen patients in the first stage of pneumonia, with the face deeply suffused with redness, the breathing short and oppressed, the pulse frequent and weak, and the feeling of prostration so marked that they were unable to rise from the bed, so relieved by one prompt, free bleeding, that they could not only sit up, but walk about their room with ease. What are recognized as tonics and stimulants, given to the same patients in the same stage of the disease, instead of strengthening, would have added to the debility of the patient by increasing the local vascular fullness. Again, the same quantity of an anodyne or anæsthetic that might be required, simply to render a patient comfortable when suffering from delirium tremens or some neuralgia, might produce dangerous or even fatal effects if given to the same patient when well or the nervous system not disturbed. Hence, I repeat that the general effect of any and every remedy will be determined very much by the condition of the patient at the time of its administration.

And I can give you, gentlemen, no more important therapeutic law, or general rule of action, than to so investigate every case, as to gain a clear and definite conception of the existing pathological conditions, and then apply such remedies as are most accurately calculated to remove, both the morbid conditions and the causes on which they depend, without regard to either nosological arrangements or classifications of the materia medica. When the case is so obscure that a satisfactory idea of the actual morbid conditions cannot be obtained with all the aids for making a proper diagnosis that are within our reach, then be content to palliate symptoms as they are presented, from day to day, by mild means, rather than hazard doing positive injury by a blind exhibition of more active remedies.

Original Communications.

ARTICLE II.

PRESIDENT'S ADDRESS. By W. H. BYFORD, M.D., before the Chicago Gynæcological Society, at the Second Annual Meeting, Nov. 15, 1880.

GENTLEMEN FELLOWS: By your partiality in electing me President of the Chicago Gynæcological Society, you have placed me under an obligation for an address.

In considering the matter of a subject it has seemed to me proper to devote the short time I propose to occupy in tracing, in a concise way, the history of gynæcology in this city. I do not design to do more than give a sketch or outline of the subject, leaving those present to fill up the deficiencies.

If I should say less about obstetrics and diseases of children than of the diseases of women, I am sure I shall be excused, for the double reason, that I know less about them, and that gentlemen more interested in those departments of study will some day be called upon to fill up the hiatus by having the office of president thrust upon them.

It seems hardly creditable that gynæcology as a special study has been almost wholly developed within my recollection. When I studied medicine, the diseases of women outside of those immediately connected with pregnancy and child-bed were very imperfectly understood; and in the lectures by teachers in the colleges did not occupy half a dozen days. And while general practitioners knew very little of them, because they were not taught, and because there were no books upon the subject, they were very little behind the professors. It was not till a short time before I came to Chicago that gynæcology began to assume

definite shape. Up to 1845, the French, through three or four illustrious teachers, as Lisfranc, Recamier and Vulpean had arrived at unusual correctness in diagnosis, and consequently, for those times, great efficiency in treatment.

In 1845, Dr. J. H. Bennett, who had been interne in the French hospitals, and had become thoroughly imbued with the teachings of the Great Masters in the French capital, published the first edition of his works on the uterus, and by his positiveness, perspicuity of style and enthusiasm captivated the young men in the profession. It was so comforting to the junior practitioner to be led by demonstrative facts out of the maze of uncertainty into a field of tangible reality, that many embraced his doctrines and confidently committed themselves to his practice. An impetus of no mean importance was given in this country to the progress of the ideas promulgated through Bennett by Prof. C. D. Meigs, himself an enthusiast, embracing and urging a similar course of teaching.

Shortly previous to, at the time of, and subsequent to the publishing of Bennett's books, Simon and Koeberle, respectively of Germany and Alsace, were exhibiting equal fervor in the cultivation of our branch of medical science, and Simpson, of Scotland, was grafting upon the old English stem so many novelties as to yield an entirely different fruit to that it had ever borne before; and our own immortal Sims and Atlee were more quietly yet not less efficiently working surgical problems that overturned the whole gynæcological fabric of former times and established upon its ruins not dogmatic but rational gynæcology.

The harvest of such vast efforts afforded work for many reapers; and there arose in Germany such men as Carl Braun, the elder and junior, Martin Schroeder, Scanzoni and a host of others, Tyler Smith, Barnes, Hewitt, Atthil, Spencer Wells and many more in England; while Peasley, Thomas, Emmet, Goodell, Battey and others entered the list in this country. Then the race began and never at any time have such strides of progress been made by any body of men as the gynæcologist of the last quarter of a century. The field of research was new, inviting and remunerative; the men were young, energetic learners, and ambitious, and if at first they started off as disciples of some

particular school, they soon became masters; their labor assumed such an individuality and often originality that created an accumulating store of knowledge which will mark this age in gynæcology with as durable, glorious and much more beneficent fame than the literature of the age of Elizabeth characterises that period of English history.

The gynæcologists of our time have availed themselves of all that is valuable in the general subject of therapeutics and surgery, and the special subjects springing from them. The microscope, stethoscope, thermometer, sphygmograph, test tube, in fact all the instruments used in the rudimentary and practical branches of medicine, besides those peculiar to their own branch of practice, have been turned to advantage. I dare not try to give you all the particular improvements which have grown out of and been appropriated by those engaged in this hot pursuit of knowledge. Ovariotomy, oöphorectomy, hysterotomy, hysterectomy, tracheloraphy, perineoraphy, the cure of vesico-vaginal fistula and many others of the most difficult and most beneficent operations, most of them originating with the gynæcologist, and the remainder plucked from the category of general surgery, bound in our magnificent fasciculus, and given the title of gynæcological surgery.

Perhaps, gentlemen and fellows, it may be necessary for me to apologize for this digressive panegyric of our subject, but as so much of these things have transpired during my time and as in them I have been an humble but interested participator, I venture to hope you will not require it of me.

Now, to come down to the gynæcology of Chicago. Before entering into the details allow me to say something of the different schools of gynæcology, imperfect as they were when I commenced my labors in this city. There were at least three different and well pronounced theories of uterine disease, which you know, after all, form the main bulk of our practice.

The French theory was, that inflammation and ulceration were the prime conditions of all uterine cases, and all the accompanying states of the organ the consequences, and were to be cured by local treatment. The teachings of this school, as I have shown you, was first given to the English speaking peoples by

Dr. Bennett, and had gained great ascendancy at that time in this country. The English school, represented by Bigby and the earlier works of West, promulgated the doctrine that the diseases of the uterus were the consequence of general disorder of the system, and that general treatment of an appropriate character would cure them.

The American school, as represented by Chapman, Dewees and Hodge, the renowned trio of the University of Pennsylvania, taught that displacements of the uterus were the prime and governing factors in uterine ailments, and that support was the great requisite. I need not tell you that the teachings of this school is perpetuated, and one of its glorious old masters immortalized, by the invention of Hodge's pessary. In some of its many forms it has everywhere prevailed and carried with it the name of Hodge into every civilized community on the globe. It has imprinted its likeness upon almost every useful instrument now employed; and I cannot now see why it will not forever be indispensable to the intelligent exercise of the art of gynæcology.

None of these exist as a separate school in this country at the present time, but all are judiciously blended in one system to the great benefit of the suffering women of this period.

Some other theories of female disease, not so generally accepted, were taught by men of eminence. Drs. Tyler Smith and Tilt looked upon diseases of the ovaries as the source of many other diseases and disorders of the genital system; and according to these learned gentlemen the sympathetic influence of the female genital system was reflected from these organs in a state of disease. There is great plausibility in this theory, inasmuch as the ovaries are now acknowledged as the presiding, regulating and actuating organs of that system.

In 1857, when I came here, Dr. John Evans had just resigned the position of Professor of Obstetrics and Diseases of Women and Children in Rush Medical College, and was the only professional gentleman in the city, so far as I know, who either had or deserved to have any reputation as a gynæcologist. He had taught the branch to which he had been elected, very acceptably, and would no doubt have made a wider and more enduring fame if he had not turned his attention to politics and building rail-

roads. The professional reputation he left behind him, however, is one of which he may justly be proud. At that time gynæcology was cultivated by all the intelligent members of the profession in this city to the limited extent necessitated by the want of facilities for studying it. As compared to its present condition, the subject did not deserve and had not attained to the dignity of a separate name. The appliances used in the treatment of diseases of women were very imperfect, and the gravity with which they were employed would have been amusing if they had not often been mischievous. The cylinder was the representative speculum, although the bivalve and quadrivalve were occasionally seen as curiosities. I have several times seen a lamp chimney do service as a cylindrical speculum, and heard the owners congratulate themselves upon the simplicity of these instruments as compared to the fancy and expensive articles of which they had heard. As the practitioners of this city generally accepted the teachings of Bennett, a caustic holder was a necessary part of their equipment, and goose-quills served their purpose admirably. I assure you in all earnestness that I have known men to practice gynæcology to their own satisfaction with those two instruments alone. It is not in a spirit of derision that I tell you these facts, connected with the gynæcology of those times, but for the purpose of giving you an idea of its rude condition.

Two years after the resignation of Dr. Evans, our accomplished fellow, Dr. DeLaskie Miller, was elected to fill the same chair in Rush Medical College, and I have often wondered at and admired his courage and perseverance in discharging the duties of three men in that institution for so many years. That those duties were conscientiously performed, no one will doubt; that they were acceptably rendered, the fact that he has lectured to more students on that subject than any other man in the Northwest, with possibly one exception, sufficiently attests. To him belongs the credit of establishing the first gynæcological clinique in this city. This clinique was successfully conducted by him at Rush Medical College on the North Side, as far back as 1862. All who knew him will join me in wishing a long continuance of his useful career.

In 1859 Chicago Medical College was organized, and an incumbent to the tripod chair of Obstetrics and Diseases of Women and Children elected. The duties of this laborious position were divided with Dr. E. O. F. Roler in the year 1868. Twelve years seem but a very short time, and there is so much of an advancement since then that we forget the fact that, if not the first, it was among the first instances in which this step was taken.

Dr. Roler has filled the chair of Obstetrics in a manner that has placed him in the foremost ranks of obstetricians in the Northwest, if not in America.

In 1872 an organization called the Chicago Obstetrical Hospital was effected. This organization occupied a part of the Chicago Medical College building, but was otherwise independent of it. The members of this institution were Dr. Daniel T. Nelson, who did the first work that led to its foundation, Drs. E. O. F. Roler, H. T. Merriman, H. T. Byford and myself. The clinical gynæcological teachings of the Chicago Medical College were conducted by the members of the Chicago Obstetrical Hospital up to last year. The property of that institution is now in the keeping of the Woman's Hospital of the State of Illinois. I am happy to recognize in the gentlemen connected with that institution, gynæcologists who are a credit to our city and society and whose future is full of promise.

In the year 1870 the Woman's Hospital Medical College was organized, and the separate chairs of Obstetrics, Gynæcology and Diseases of Children were established as a part of its original organization. Dr. Eugene Marguerat was elected to the chair of Obstetrics. For several years he discharged the duties connected with his position in a painstaking, faithful and very acceptable manner, and is now recognized as an able practitioner of obstetrics.

Our sturdy and indefatigable fellow, Dr. T. Davis Fitch, became Professor of Gynæcology, and still occupies the position in that institution. It is not in a spirit of flattery that I say in his presence, Dr. Fitch has already achieved a national reputation as a gynæcologist, and that the Woman's Medical College

owes much of its present highly prosperous condition to his devotion, industry and ability.

The chair of Diseases of Children was given to Dr. Chas. G. Smith. I need not speak to you of Dr. Smith's well known acquirements in this direction—they are too familiar to you to require it. Dr. Smith's large and increasing practice was too exacting to permit him to retain that chair. He was succeeded by Dr. Mary H. Thompson, who also very soon retired from the place, to more completely devote her whole time to the Hospital for Women and Children. Our fellow, Dr. Chas. W. Earle, was transferred to this chair, and has ardently, intelligently and devotedly discharged the duties of it to the present time. His usefulness as a member of the faculty is second to no other belonging to the college, and he has only to persevere in the way he now goes to occupy a high position in this great city and country.

I have yet to chronicle another event in the history of our colleges in which some of our fellows have played a conspicuous part. I refer to the organization of a Spring Faculty in the Rush Medical College. This occurred in the year 1872, and the choice of members of the faculty was determined by *concours*. In that *concours* the contest was participated in by some of the ablest men in this city and State. Our fellow, Dr. A. Reeves Jackson, triumphantly won the chair of Gynæcology, and Dr. E. Warren Sawyer that of Obstetrics. It is only the truth to say that the brilliant success of this enterprise was largely due to the able and acceptable teachings of these two talented gentlemen.

About 1862 the Hospital for Women and Children was established and Dr. Mary H. Thompson was appointed by the board of trustees "Head Surgeon." She still occupies that position, having held it continuously from that time. To this position she owes much of her uncommonly successful and useful career. Dr. Thompson has performed almost all the difficult and important operations in gynæcological surgery, and deservedly ranks among the most successful gynæcological practitioners. Dr. Sarah Hackett Stevenson is associated with Dr. Thompson in this hospital, and a bright future awaits her.

About the same period, for the first time, the Mercy Hospital

was open to gynæcological cases. Later, cases of obstetrics were received into the same institution. Since then the department of obstetrics and gynæcology has developed into a useful field for teaching, and has been fully utilized by the Chicago Medical College.

In August, 1871, a charter was issued to Dr. A. Reeves Jackson and associates, for the organization of the Woman's Hospital of the State of Illinois. It is well known that this enterprise originated with Dr. Jackson, and through his untiring exertion was pushed forward to success. The hospital is still in existence, and it is hoped will become one of the enduring institutions of Chicago—the means of great good to suffering women, and a source from which will emanate much useful gynæcological knowledge.

When Cook County Hospital was organized in the year 1855, there was not a distinct gynæcological department established, and patients laboring under diseases peculiar to women, and even obstetrical cases, were at first placed in charge of one or more physicians of the hospital. Soon, however—probably in 1865—the authorities of the hospital designated certain wards for obstetrical cases and for diseases peculiar to women, and gave Dr. H. W. Jones charge of the department thus created. To Dr. Jones is due the credit of being the first to give regular special *hospital* clinics in gynæcology in Chicago. Later in the history of this hospital, Dr. T. D. Fitch was associated with Dr. Jones in charge of this department.

Our fellows, Drs. H. Webster Jones and T. Davis Fitch, had charge of the department of the hospital for several years—Dr. Fitch until within about two years. Dr. Jones, on account of a large and growing gynæcological and obstetrical practice, resigned his position on the staff of the hospital. These positions are now occupied by gentlemen of great respectability, Drs. Steele and Guerin, and the department under their management is utilized to much advantage for teaching. Our fellow, Dr. Jones, may be regarded as a pioneer gynæcologist in Chicago, having been here twenty-two years, and growing with the city and profession, now enjoys a position of which we as fellows and associates are proud.

In the interval between the year 1857 and now, but especially since the fire, several important dispensaries have been organized, some for gynæcological patients alone and others in which this department of our profession has been well represented. I have already spoken of the one connected with the Mercy Hospital and Chicago Medical College. One for the exclusive treatment of diseases of women and children was and is now connected with the Hospital for Women and Children. Under the vicissitudes caused by poverty, the fire and the panic, this gynæcological dispensary has been kept up, and while dispensing good to the people, has been utilized to great advantage for the purpose of teaching. Connected with the Woman's Hospital of the State of Illinois, there has also been maintained a dispensary for the treatment of diseases of women. Three years ago the Women's Christian Association established a dispensary for the treatment of the diseases of women and children. It has been judiciously managed, and is the source of much good to the suffering poor. All the mixed dispensaries have gynæcological departments, as the German, North Star, and the Central Free Dispensary. This last named dispensary, known for some years as the Brainard Free Dispensary, deserves more particular mention than any of the others named. It is now located on the corner of Wood and West Harrison, in the Rush Medical College building. The gynæcological department of this dispensary has been conducted in an efficient manner by Drs. Adolphus and our fellow Etheridge. It is now in charge of Drs. Adolphus, Fitch and Nelson, is attended by a large number of patients, and is affording material for a very useful clinique. In connection with this dispensary and its gynæcological department, Dr. Adolphus deserves to be honorably mentioned. It is acknowledged by all who are acquainted with the work done there, that the great success of that department, and indeed of the whole dispensary, is due more to the devotion and ability of him than any other one individual.

Gynæcology in Chicago has lately been the recipient of two valuable accessories. I allude to the arrival among us of our accomplished fellows Dr. Dudley and Professor Jenks. They are both so well known to all of you that I need say but little of

them. They have both impressed themselves upon the literature of the profession in other cities than this, and have won an honorable position among us. We welcome them with fraternal greetings.

In this very cursory and imperfect sketch of gynæcology in Chicago as I remember it, no doubt I have omitted institutions and individuals that ought to have been mentioned. If any such omission may appear, I beg the indulgence of any that may seem to be slighted, and assure them that at no distant time some one else will do the task in a more complete and graceful manner. I venture to hope, however, that this outline contains the main landmarks as starting points for a connected and full summary of the whole subject.

Chicago twenty-five years ago was a city of less than fifty thousand inhabitants; its houses were nearly all of them made of wood mounted on stilts, had been moved or were in a moving condition; its streets were formed of that native compound called Illinois mud, and in some places it was a long distance to the bottom. The sidewalks resembled irregular stairways, as we could not walk upon them without ascending and descending steps. Now it is a city of half a million inhabitants. Its streets are formed by magnificent structures surpassed by no city in the world—splendid public buildings, such as we visit, when abroad, as curiosities. Its business enterprise and vast resources are wonders to all civilized nations. How will the growth of gynæcology compare with this grand record? Does gynæcology keep pace with the magnificent progress made by commerce in this great Western metropolis? I dare not approach the comparison, but I think all will admit that its growth, taken altogether, is such as to inspire us with pride and courage. Pride that outside of the three great cities of New York, Philadelphia and Boston, we lead the profession. Indeed, I do not know that we ought to place the two last named cities before ours in gynæcological prestige. We should take courage at what we have done, at our increased strength, but above all at our own harmony and organization. Can we not hope that with the formation of this Society an era has been reached from which our progress will be more rapid than ever before?

ARTICLE III.

ALVEOLAR ABSCESS. By EUGENE S. TALBOT, M.D., D.D.S., Clinical Lecturer on Dental and Oral Surgery at Central Free Dispensary, Rush Medical College. Reported by William A. Synon.

The patient before us, John Kelly, twenty-eight years of age, is suffering from a disease which you will be often called upon to treat in your practice, known as alveolar abscess. We shall devote the remainder of the hour to acquainting ourselves with its cause, symptoms and treatment. This lesion is often ill understood, the term gum-boil being supplemented from a want of knowledge in regard to the pathology of the disease. The primary manifestations of an alveolar abscess is at the apex of the root. As it proceeds to the surface it often terminates in what is commonly known as gum-boil. The word alveolar comes from alveolus, meaning a cavity, a socket: the term showing that the lesion is located in the socket of the tooth. When lumbar abscess, or pelvic abscess, is mentioned, we at once comprehend the location of the lesion. A swelling upon the face or neck, with all the symptoms appertaining to an alveolar abscess, does not always indicate the presence of one. The seat of the disease must be within the alveolar process. We know that the soft tissues of the body are made up of the ultimate elements, carbon, hydrogen, oxygen, nitrogen, sulphur phosphorus, etc., and that when the particles die *en masse*, nature allows the substance to escape in the form of gases. The pulp of a tooth undergoes this same change; death is caused by caries, a blow upon the tooth, constitutional disorders, or from thermal changes. The gases, chiefly H_2S., being unable to pass into the mouth, escape through the apex of the root into the soft tissues. Please bear this point in mind. An alveolar abscess is always pathognomonic of a dead pulp in some one of the teeth. The periosteum, a vascular membrane surrounding the root and lining the alveolar process, affords nourishment to the teeth. This membrane becomes inflamed from the irritation and thickens. Being enclosed between bony

walls, the tissues are unable to expand and the tooth is forced from its socket. The patient experiences considerable pain, which ceases upon the slightest pressure, returning again with renewed energy when the force is renewed. These things continuing, plastic lymph is thrown out at the apex of the root and a sac is formed. The surrounding parts becoming involved, the face begins to swell, and the patient suffers the worst form of odontalgia. The sac enlarges and for want of room the pressure causes absorption of the alveolus, and the pus finds its way to the surface. It may point directly here, or it may dissect its way between the bone and periosteum, or between muscles to some remote part, and there form a pouch or pocket. This depends to a great extent upon the tooth and the application used in treatment. The pain ceases as soon as the pus has reached the surface and pressure is removed.

The first symptom observed is a slight soreness about the tooth affected. This increases, followed by a throbbing pain at every beat of the heart. As the pain increases, the tooth elongates, preventing the closing of the jaws. The patient is feverish and tongue coated, bowels constipated, and in a few hours the intermediate tissues distend, the face presenting an appearance scarcely recognizable. His suffering, meanwhile, has become intense, the nervous system has lost its tone and he is completely exhausted. The time varies from two days to two weeks in which the pus forces its way through the alveolus into the soft tissues; the pain ceases then and the tooth returns to its socket. Pus often presses between muscles and lodges in some remote part; this is more noticeable when the seat of the lesion is in the wisdom teeth or incisors. If a wisdom tooth becomes the seat of the trouble, the surrounding parts swell, involving the tonsils and thus interfering with swallowing. The jaws are closed and food is taken with difficulty. Pus sometimes finds an outlet in the larynx, or it makes its way around the neck of the tooth. Frequently it diffuses between the deep and superficial fascia and lodges near the larynx, trachea and clavicle. If the disease is connected with the incisor, the pus often works between the bone and periosteum, forming a tumor in the roof of the mouth. A fistula may form at this locality, or from pressure

may cause absorption of the palate bone and discharge into the nares. If the inferior incisor becomes involved, the pus, in obeyance to the law of gravitation, makes its exit through the integument beneath the chin. If the cause is not removed, the abscess becomes chronic and a permanent opening with red granulations about its margins is the result.

If a patient presents himself with a swelling or fistula upon the face or neck, you at once suspect that the trouble proceeds from the teeth. My experience teaches that the teeth are the seat of the majority of these pathological conditions. Make a thorough examination of the jaws to ascertain if there be any roots or decayed teeth. The locality of the swelling will aid you in this direction. The patient may be able to locate the tooth, but the practitioner must not be influenced against his judgment, as the patient may be mistaken owing to the extended inflammation. This might result in extraction of the wrong tooth—a too common occurrence. Satisfy yourself before sacrificing a tooth, and your judgment will be appreciated. In making a superficial examination only, we may not always be successful in locating the particular tooth which causes the trouble. You should all be provided with an oral surgeon's mouth-mirror and a steel instrument similar to a dental excavator. The mouth-mirror is a very convenient instrument for reflecting the light not only in every part of the oral cavity, but in the larynx as well. The steel instrument is an important aid; with it tap the teeth upon their grinding surfaces, commencing with the posterior tooth and advancing forward. When the particular tooth is reached, the patient will respond to the pain occasioned by the blow. In tapping the molars, it is essential that the whole surface should be gone over, because the seat of the disease may be located at the apex of any one of the roots, and unless the blow is directed over the affected root, the patient will not respond. Sometimes this proceeding is of little value. This is the case when the abscess has become chronic and fistulæ are established and the soreness of the tooth has passed away. Place the patient in a position that with the head thrown back a strong light may pentrate the oral cavity. With a mouth-mirror reflect the light upon the teeth and observe the difference in color. When death

of the pulp occurs, the tooth generally presents a bluish appearance. There are two reasons for this: one, that the animal matter is drawn into the tubule of the dentine by capillary attraction; the other, that the H_2S unites with the iron in the blood, forming sulphide of iron. This discoloration is not always noticeable, particularly in older people; as, when age advances, the tubuli become smaller, so these substances are prevented from entering. If these attempts should fail to accomplish the diagnosis, another excellent plan is to warm the instrument used in tapping the teeth in a spirit lamp, and apply it to the crowns of the teeth. When it touches the teeth in which the pulp is alive, the patient will immediately respond, when the ones in which a dead pulp is located will be void of sensation. Hot and cold water may also be applied with a syringe—the cold having no effect, the hot producing pain.

Abscesses connected with the wisdom teeth of the lower jaw manifest themselves by a similar but a more severe line of symptoms than when connected with other teeth. The swelling takes place in the parotid region, the muscles of mastication become rigid, jaws set, the patient unable to swallow. The face is swollen to an enormous size and the pain is intense. Abscesses caused by the eruption of these teeth and those caused by the death of their pulps must not be confounded. Those caused from the eruption of the wisdom teeth are not alveolar abscesses. They differ in their locations, being situated around the crown, instead of at the apex of the root. They are caused by pressure upon the surrounding parts, in nature's efforts to force the teeth into place, and require a different course of treatment. Swellings and discharges in the roof of the mouth and nares are often a result of abscesses at the apex of the incisors. They occur more frequently when connected with the laterals. The pus dissects its way between the bone and periosteum, forming a pocket in the roof of the mouth, where it discharges into the oral cavity, or causes, by pressure, absorption of the maxillary bones discharging its contents into the nares. In some cases, abscesses have discharged their contents as far back as the soft palate, leading the practitioner to suspect caries of the bone. The antrum, the base of which extends from the canine tooth back, including

the wisdom tooth, sometimes becomes involved, discharging its contents into the middle meatus of the nose, or, being encysted, produces a bulging of the antral walls. Fistulæ upon the face, the result of alveolar abscess, are often mistaken for necrosis, caries and cancer. Two cases have come to my notice in the past two years; the first was a young lady who had been treated by different physicians more than four years for cancer beneath the infra-orbital foramin. While there was no pain or constitutional disturbance, the patient had become quite anæmic, and the expression of countenance indicated intense mental anxiety. Finally, she drifted into the hands of a physician who suspected the cause and called to his assistance a skillful dentist. They diagnosed the lesion, the seat of which was located at the apex of the canine tooth. This was treated, the abscess cured and the patient recovered. The next case was a woman with a fistula at the lower border of the chin, caused by an abscess at the root of the inferior incisor. She submitted to a surgical operation, and to the surprise of the operator no dead bone was found, the removal of the tooth relieving the trouble. It is not always easy to make out a diagnosis when caries and necrosis of the jaws are characterized by a similar line of symptoms. A plan which I believe to be safe and sure is by exclusion, as I have already stated. In these cases, suspect the teeth to be the seat of the difficulty.

Pass your probe into the sinus, notice the direction it takes before meeting an obstruction; should it prove to be a hard, smooth circumscribed mass, it (together with the direction which the probe takes) will aid you in extending your search in the cavity of the mouth and limit the extent of field to be explored. With the aid of the instrument, mouth-mirror, and heat you will be able to locate the tooth. Abscesses are as likely to arise from filled teeth as from roots, their pulps dying from thermal changes taking place through the fillings. If you are confident that the teeth do not cause the trouble, suspect dead or carious bone. You are familiar with the peculiar, soft, spongy honey-comb nature of the tissue and the readiness with which the probe penetrates. We do not find in alveolar abscess that dense inflammatory deposit extended in size often with more than one sinus and pus offensive

which are found in necrosis. Having ascertained that neither the teeth or bone cause the trouble, we shall next suspect a cancerous condition. In treating alveolar abscess and its complications, the simplest, surest and quickest means of eradicating it would be to remove the offending organ, but in these enlightened times in the hands of a specialist very few of the organs are sacrificed. The loss of a tooth impairs the whole dentine. Therefore efforts should invariably be made to preserve them. Should it be deemed best to extract the tooth, the following treatment will prove simple and efficacious: an injection of tr. iodine or carbolic acid into the sinus; if pus cells have commenced to form, we apply hot figs or raisins to the gum directly over the rebellious root. Also an excellent and more convenient remedy is one made from the following prescription:

Tr. capsicum, Alcohol, Chloroform,	of each ℥j

applied on a bit of cotton to the gum as before, pointing the pus into the mouth. Hot applications must never be made on the face, as it would point the pus to the surface; hypodermic injections of morphia may be given to relieve the pain. In lancing an abscess, pass the bistoury into the mouth, keeping the back of the blade against the jaw as a guide to avoid the facial artery. Never lance an abscess upon the face; an ugly scar would be the result, and should be considered malpractice. In abscesses resulting from death of the pulp by fillings, we should remove the fillings to allow the gases to escape, after which the root can be treated and the tooth refilled. Should you be fortunate enough to see the patient when the first symptoms manifest themselves, endeavor to avoid more serious results by freely lancing the gums, carrying the knife through the process to reach the inflamed periosteum and apply trs. aconite and iodine to the parts. Should this fail, then force the knife, or drill through the alveolar process at the apex of the root, and in this way give vent to the inflamed product, administering saline cathartics. We find the eruption of the wisdom teeth particularly difficult to treat, requiring the use of the lancet often to remove the mucous membrane. Frequently the space between the second molar and the angle of the

jaw is insufficient to allow the wisdom tooth to come up into place. When possible, we consider it wisest to remove the wisdom tooth; but if the tooth has not advanced enough to extract it, we remove the second molar rather than undergo any extended operation. When the antrum is involved, it may be necessary to remove the tooth causing the trouble. As the roots often extend into this cavity, it is quite difficult to treat an abscess in this locality. After the root is removed, if the secretion should not flow out, pass a drill or trephine up into the socket through the opening made by the root. Having removed the cause, cleanse the cavity with warm water, this being all required.

Article IV.

Injurious Effects of Vulcanized Rubber. By L. P. Haskell.

Sixteen years ago Dr. W. B. Roberts, of New York, wrote as follows, in an article for the *People's Dental Journal*, published in this city:

"We discovered that, of the *red vulcanite*, commonly used by dentists, no less than *one-third consisted of the coloring matter, bisulphuret of mercury*, or the vermillion of commerce; and that the balance was composed of sulphur and rubber, in nearly equal parts. Medical testimony informed us that the bisulphuret of mercury produces the same effect upon the system as pure mercury; we also found that in the process of mixing these ingredients, none of their properties are lost; and by actual experiment, before and after vulcanizing, the weight of the substance is the same.

"It therefore became evident to us that the bisulphuret of mercury and sulphur—two substances confessedly injurious to health—were actual ingredients of the material when placed in the mouth; and common sense, as well as science, taught us that such effects as were perceptible in such mouths, could proceed from no other cause.

"These effects, as noted in our own experience, and declared

by the evidence of many others, were, first, *a great absorption of the alveolar and bony substance of the jaw;* next, irritation of the mucous membrane, and *a condition nearly approaching salivation;* then gastric irritation, and, finally, the general derangement of the health consequent upon such abnormal conditions.

"*All of these symptoms of disease were removed by simply removing their obvious cause*, RED VULCANITE; while a healthy condition continued after replacing it with gold, or continuous gums.

"One cause of these inflammatory conditions under red, or any color of vulcanite, is the fact that it is a non-conductor of heat, and this cause, as will be apparent to any physiologist, is sufficient to produce the worst results."

To this testimony of Dr. Roberts has been added sixteen years of experience all over the world—we may say universally—of the dental profession. Doubtless there are many dentists who are unaware of these facts in relation to vulcanite; especially among that class who commenced practice since its introduction, and have had little or no experience in the use of *metal* plates; by many such, these abnormal conditions of the mouth are supposed to be owing simply to the presence of plates, no matter what the material; or, perhaps, owing to some peculiar condition of the system. There are others who ought to know better, that insist there are no injurious effects arising from the use of such materials, and still persist in recommending it as good, if not better than any other material used.

It will be observed that there are two serious objections to the use of these materials, viz.: loss of bony substance from undue absorption, caused by the retention of heat under the plate; and the *poisonous* effects of the coloring material, which constitutes *one-third* of the whole plate.

The first of these is the least serious of the two, but affects all who wear it, only in different degrees. I never have yet seen a mouth where this material has been worn but there were evidences of undue absorption, and thousands of mouths are ruined by it, for absorption goes on until there is no "process" left, and no ridge, or only a flexible one of thickened membrane.

To a young, or middle-aged person, doomed to wear artificial

teeth the balance of their days, it is certainly desirable that as permanent a condition of the *ridge* should be maintained as possible.

There is undue absorption under metal plates, sometimes, but, owing, most always, to undue pressure, long continued, upon one portion of the jaw.

The effect produced by the coloring material is far more serious, although not so often realized, because it seriously affects the health of the patient. Dr. Roberts has made so clear a statement, that it is unnecessary for me to add anything but to say that it is corroborated by many members of the profession, during these years past, and also to give several cases, that have come under my own observation.

One year ago, a German, about sixty years of age, was sent to me by Dr. Justin Hayes, whom he had consulted for treatment, and who told him it would be useless for him to do anything until he rid his mouth of a full set of rubber plates, which he had worn for eight years, and during the whole time had suffered in a peculiar manner, as follows: although having a good appetite, yet, the sight of food of whatever nature, with the exception of *fluids*, produced a feeling of disgust, almost horror, so that he subsisted almost entirely upon soups. I advised the use of "Continuous Gum Work," but he said the price was beyond his reach. I told him that perhaps celluloid would remedy the difficulty, and tried it. In two weeks he returned and said the trouble was as bad as ever, after wearing the plates one week, but at Dr. Hayes' suggestion, had left all plates out of his mouth for one week, and he began to improve. I arranged to make him the "Continuous Gum," inserted the plates, and, seeing him ten days after, and not since, until last week (one year), when he told me he had been entirely free from all unpleasant symptoms of the eight years previous.

In this case, I said, I tried the celluloid. This material has the same non-conducting quality of rubber, and in this respect is just as objectionable, but although it has the same coloring matter, there is very much less of it, and I never before observed any such results from its use.

Last March, a lady from Topeka, Kansas, called. For twelve

years she had been wearing a rubber plate, and during the entire time had suffered with a serious stomach difficulty, and also a chronic diarrhœa. She had observed the inflamed condition of her mouth, and had queried whether the plate caused it and the stomach difficulty. I made her a set of "Continuous Gum," and she returned home. In about six weeks she accidentally broke off a tooth and sent it to me for repairs, and for a week wore the rubber plate again. During the summer, on her way East, she called and told me her her experience, as follows:

After wearing her new set the symptoms soon began to disappear, and by the time she broke it, considered herself well; but, on putting in the old rubber set, the old symptoms reappeared, and continued to increase until she received her new set again, upon wearing which, the old symptoms again disappeared, and she was well again.

On telling her physician of what she had been doing, he said he did not know she was wearing a rubber plate, and if he had he did not know there was anything injurious in it, but he had been treating her for symptoms of *mercurial poisoning*, but of course without avail.

I could relate other cases of a similar nature, and so could dentists all over the country; but these suffice to illustrate the necessity of a more careful exploration of the mouth to find the cause of symptoms that sometimes puzzle the medical practitioner.

CHICAGO, December, 1880.

ARTICLE V.

A WOUND OF THE CORNEA COMPLICATED BY SECONDARY GLAUCOMA. By F. C. HOTZ, M.D., Chicago.

In the latter part of February, 1879, a piece of a gun-cap hit the left eye of L. H., aged fourteen years, living in a small town in Illinois. For three days the eye was very painful; after that time periods of pain alternated with free intervals, but the eye always was more or less red. On the 2d of April the boy came to Chicago. I found a great deal of photophobia, profuse secre-

tion of tears, considerable redness around the cornea, and an irregular, ragged scar in the cornea extending obliquely from its center into the inferior temporal section. With the lower part of this scar the iris was adherent so that its tissue was forcibly dragged up toward the cornea in an abrupt fold. The adhesion was very small and did not involve the pupillary edge, the pupil, therefore, was round and mobile, and dilated readily upon the use of atropine, the portion fastened by the anterior synechia, of course, excepted. There was no trace of iritis and no disturbance of the lens; the fundus could not be sufficiently examined on account of the excessive photophobia and lachrymation. V was reduced to the counting of fingers; and T seemed increased. (T + 2). No foreign body was found in the anterior chamber; and as the piece of gun-cap pierced the cornea near the center, it could impossibly have gone beyond the anterior chamber without wounding the lens. The persistent irritation of the eye, therefore, could not be attributed to the presence of a foreign body; and as so far the eye had not received any treatment, I hoped that rest, proper care and atropine, would soon subdue the trouble.

At first, it seemed as though my expectation would be realized; the symptoms gradually subsided, and, on April 24, the eye appeared so well that I discontinued the use of atropine. No sooner was this done than the eye became again red and painful. By the re-application of atropine this relapse was subdued in two days. But now T was undoubtedly positive; pilocarpine was substituted for atropine, but was borne by the eye so ill that I returned to atropine. From this time on, the eye was very changeable; sometimes looking quite well, sometimes very red and inflamed. T continued positive; the parenchyma of the cornea began to be hazy, and the anterior portion of the sclerotic seemed to expand under the abnormally high pressure.

Excessive tension is always an evidence of an abnormal increase of the contents of the eyeball. Whether the secretion of the intra-ocular fluids is abnormally stimulated, or the excretion (filtration) of these fluids abnormally slow, in either case the disturbance of the equilibrium between production (secretion) and consumption (excretion) will result in the accumulation in the

globe of a surplus of fluid; or, in other words, the eyeball becomes overfull, tense and hard. This condition of the eye is the characteristic symptom of glaucoma, and when it occurs in the course of another ocular disease, we speak of *secondary* or *consecutive* glaucoma. In the present case the glaucomatous condition was undoubtedly due to the abnormal fixation of the iris to the cornea; and consequently the only rational remedy that would afford permanent relief was an operation for the release of the iris.

May 16, I informed the father of the patient of this opinion. He did not come to the city until May 29, but at once consented to my proposition; and on the afternoon of the same day the operation was performed. About one mm. from the external margin of the cornea a narrow-bladed iridectomy knife was thrust through the transparent cornea and pushed across the iris in such direction that its point passed over the pupillary edge of the iris just above the synechia. By a slight rotation of the blade in the plane of the iris the point of the knife was made to disappear behind the iridic fold fastened to the corneal cicatrix. By further turning the blade in the same direction this fold was caught up by the cutting edge of the knife and cut off from the cornea, when the knife was withdrawn slowly from the anterior chamber. My intention was to end the operation with the release of the synechia. I was, therefore, very careful in withdrawing the knife lest the aqueous humor should escape suddenly and cause a prolapse of iris. But the intra-ocular pressure was so great that in spite of the most cautious manipulation the aqueous humor followed after the knife with such force that it carried the pupillary edge of the iris with it. Under the circumstances I considered a reposition of the prolapsed iris impracticable; I did not even make an attempt at reduction, but at once excised so much of the iris as was necessary to guard against further prolapse or anterior synechia. The day after the operation, I found the wound closed, the anterior chamber filled with aqueous humor, but T—. And T remained negative until June 4; the eye, however, was free from pain and steadily improved. I believe, therefore, that the abnormal reduction of T was due to an easy filtration of aqueous humor through the fresh cicatrix in the cornea. June

6, T was normal; and June 13, the boy could return home. The corneal parenchyma was clear; pupil horizontally oblong; fundus visible, but its vessels greatly distorted and unsteady, owing to the irregular astigmatismus of the cornea. The globe was slightly enlarged and highly myopic (as shown by ophthalmoscope); V = $\frac{10}{200}$, not improved by glasses. At an examination which I had the good opportunity to make on October 1, I found precisely the same state of the eye. And it was not very probable that the sight would become materially better because the opaque scar extended into the central part of the cornea, causing that well marked irregularity of its refracting surface known as irregular astigmatismus.

ARTICLE VI.

CHLORAL HYDRATE. (Article II.) By H. H. KANE, M.D., New York.

Mode of Administration.—The first duty of a conscientious physician who finds it necessary to use a drug of the strength of chloral, is to assure himself that the drug he has, or the article he orders from the apothecary, is pure. As has already been said, some authorities believe that the evil effects occasionally following the use of chloral are due to impurities in the drug, and not to peculiarities incident to the individual. This is especially insisted on by Liebreich and Bouchut,* and the latter gives the following simple test as sufficiently reliable for determining roughly the purity or impurity of the drug: "By taking it (chloral) in a crystallized, needle-shaped or snow-like mass, it will, in all probability, be found acceptable, but if you wish to insure its purity, you must test it with a concentrated solution of potash. If the chloral hydrate is pure, it will color the potash solution possibly a very light yellow, and will emit an unmistakable odor of chloroform. If absolutely pure, the solution should remain uncolored. If a brown color shows itself, and there is given forth the odor of chloroform, mixed with chloro-acetic

* Bouchut, C'te Rendu, Acad. des Scien. 1869, p. 966.

vapors, it is impure. I will say the same if it emits irritating gases of an acrid and disagreeable smell."

The fact that chloral hydrate is to be seen at different times and in different stores in several different conditions, has created not a little confusion in the professional mind. As manufactured by Schering, it comes to us perfectly pure, in white, opaque, broken plates of from about $\frac{1}{6}$ to $\frac{1}{4}$ in. in thickness. If this stands for a short time in a cool place, and is imperfectly corked, it will break down into a snowy mass. If freer access is given to the air, and especially if exposed to light and heat, the cake chloral becomes moist, of a yellow color, breaks down and very fine needle-shaped crystals form on the side of the bottle furthest from the heat. I have repeatedly tried to produce these shapes, and have always succeeded. Chloral in any of these forms may be perfectly pure, for I have tested it in each form and found it so. The needle-shaped crystal is that form most likely to be acrid and irritating, and if the process of its formation has been rapid, it will often give a distinct acid reaction and emit an acrid odor. There is, of course, a difference in the activity and the irritating qualities of these several crystalline forms, but by observing the precautions about to be given, all irritation may be avoided, and the difference in activity is too slight to need righting.

Chloral hydrate may be given by the mouth, rectum or hypodermically, or by the intra-venous method. I give them in the order of desirability. By the rectum we get about the same effect as by the mouth, both as regards rapidity of action and intensity and duration of effect. By the subcutaneous plan there is always danger of the production of deep-seated and superficial inflammation and the formation of abscess. The intravenous method is unjustifiable, save in the very rarest instances, and is fraught with great danger. In the majority of cases, then, the drug should be given either by the mouth or rectum.

By the Mouth.—Chloral hydrate should always be given in solution, as the drug in crystal is extremely irritating. Dr. Squibb prefers giving it in plain water, he believing that the syrup that is usually given to disguise the taste of the drug favors its breaking up. This plan is favored by not a few of my

correspondents. A preparation known as Liebrich's syrup of chloral is advertised and extensively used in England. In giving chloral I have always found it most convenient to order a simple aqueous solution, say:

℞ Chloral hydrat..... ʒiv
Aq..... ʒiij

of which one drachm contains ten grains, and then ordering separately a bottle of syr. tolut or prunus virginian, and let the patient add a drachm or two of the syrup to each dose of the chloral solution at the time of taking.

Many physicians use the bromide of potassium with chloral in every instance, they believing that the former intensifies and prolongs the effect of the latter.

Bartholow* found good effects in nervous disease from a combination of chloral, morphine and atropine; better than when either drug was used singly.

Bowers† produced profound sleep, lasting from twelve to eighteen hours with the following:

℞ Chloral hydrat..... gr. 30
Potass. bromid..... gr. 15 } a dose.
Tr. opii..... gtt. 20

Nearly the same is advocated by Dr. J. M. Lewis, of Kosciusko, Miss., who advocates the following, which he uses to produce sleep and quiet pain in every case where there are no contra-indications:

℞ Morphiæ sulph..... gr. ¼
Chloral hydrat..... gr. 15

Repeat as often as necessary to relieve pain or produce sleep. occasionally combines it with potass. bromid.

With reference to the combined use of chloral hydrate and morphia, Bartholow‡ says:

"These agents act much more favorably when administered simultaneously. Chloral causes sleep, morphia relieves pain,

* *Cincinnati Clinic*, Oct. 28, 1874.

† *North Western Med. & Surg. Jour.*, Dec., 1871.

‡ Report of a paper read before the N. Y. Society of Neurology and Electrology, *N. Y. Med. Journal*, vol. 21, p. 59.

atropia prevents or lessens the depression in the respiration and cardiac movements caused by the other two, while it contributes to their cerebral effects."

"These physiological studies are confirmed by the therapeutical results. The combination of chloral, morphia and atropia is adapted to those cases of insomnia caused by pain, or in which chloral or morphia alone merely increases the cerebral excitement—as in hypochondria, puerperal mania, etc. This combination is also indicated in cases of fatty and irritable heart. When pain is to be relieved, chloral is not so serviceable as the combination with morphia and atropia. The local administration—the insertion of the medicament at the site of pain—is more effective than the merely systemic impression. This is especially the case in tic-douloureux, sciatica and coccydinia, which are much more effectually treated by injections made in the neighborhood of nerves, the seat of pain. The combination of a local irritant and benumbing agent with a systemic anodyne is more curative than either used singly."

Dr. E. Chenery,* of Boston, looks upon the combination in the same way.

Dr. F. D. Lente† finds that combining a little codeia or McMunn's elixir with chloral enhances the effect of the latter.

Dr. A. P. Hayne, Inebriates' Home, San Francisco, has used the combination of chloral hydrate and bromide of potassium in a large number of instances (2,000 to 3,000), and finds that the bromide not only enhances the effect of the chloral, but acts as a guard or check upon its occasional ill effects.

Oré‡ found that two drops of a 10 per cent. solution carbonate of soda, when added to 15 gr. of chloral in one drachm of water, would make the solution alkaline. This solution was intended and used for intra-venous injection but it has since been used,§ although not extensively, in giving the drug by the stomach. It prevents irritating local effect, and seems to add to the rapidity and intensity of its action.

---

* *Boston Med. & Surg. Journal*, 1874, p. 634.

† Personal communication.

‡ *Bulletin Gén. de Thérap.*, April, 1875.

§ Les Testa, *Gaz. Méd. de Bordeaux*, 1875, 1876.

Dr. Saml. E. Wills,* of Earlsville, Maryland, finds that, in some cases, chloral does not act well, and believing that this is due to excessive acidity of stomach, gives 20 or 30 grains of bicarbonate of soda or potash, and sleep always follows.

Chloral dissolved in cod liver oil was, I believe, first used by Dr. J. Hughes Bennett,† who tried it in a case of phthisis. He found that the combination produced vomiting, while either oil or chloral alone did not do so.

By others‡ the chloral is said to render the oil more palatable, check cough, improve appetite and check night-sweats. The proportion is as follows :

℞ Chloral hydrat..... gr. 10 vel 20
Ol. Morrhuæ..... gr. 190

Dr. John Barclay§ noticed the peculiar fact that when chloral hydrate and iodide of potassium were given together, in small doses, no less than ten out of fifteen patients were affected with iodism by the first or second dose of the mixture.

"Assistant Surgeon,"¶ having seen Dr. Barclay's article, put twenty patients upon this combination, but in no instance was there any iodism produced, although the medicine was given three times a day for three days.

I have tried this experiment, varying the doses of the drugs, in a number of instances, but without any appreciable increase in the effect of the iodide.

Chloral hydrate and sweet spirits of nitre are said to be incompatible,‖ the mixture containing them becoming acrid and pungent in a few hours' time. This I have also tried, but have failed to confirm.

As chloral hydrate is quite irritating to the buccal, pharyngeal and gastric mucous membrane, whether in a simple aqueous or a syrupy solution, it is best to eat a little something, say a cracker, before taking the dose.** This has been spoken of in Dr.

---

* Personal communication.

† *Edinburgh Med. Journal*, June, 1870.

‡ (*Med. Times & Gaz.,*) *N. Y. Med. Record* 1871, p. 419. Frossini, Dujardin, Lissonde, *Bulletin Gén. de Thérap.*, vol. 87, p. 189.

§ *Lancet*, Sept. 21, 1872.

¶ *Lancet*, Oct. 19, 1872.

‖ *Druggists' Circular*, Nov., 1877.

** Testa, op. cit.

Squibb's letter. The reason may be seen and appreciated by anyone.

A very pleasant formula is given by F. F. Harvey,* Assistant Surgeon, U. S. A. He gives it in mint water or syr. tolut, with the addition of tinct. cardamom. This "covers the taste well, and leaves the stomach in a good condition to digest food—an important matter in delirium tremens."

Limousin,† availing himself of the fact that chloral becomes liquid at a comparatively low temperature (114.8° F.), reduced it to liquid form, and ran it into capsules, where it speedily hardened. These capsules fully protected the drug from the air, for a reasonable length of time, and the effect on the system was found to be excellent. They were satisfactorily used by Liégeois and Mauriac with good results. These capsules, when the drug had solidified, were hermetically sealed after the method of Viel, of Tours. Soft capsules did not prove satisfactory. The amount of chloral in each capsule varied from 0.30 to 0.40 grams. In concluding his remarks, Limousin states that the alcoholate of chloral is much easier to manipulate and preserve than the hydrate.

Dr. H. Fly Smith‡ found that chloral, when given in camphor water, acted much more quickly and powerfully than when given in syrup.

Dr. Julius T. Hoffmann, of Chicago, Ill., and a recent writer in the *N. Y. Medical Record* (Nov. 20, 1880) say that the taste of chloral may be effectually disguised by giving it in syrup of gooseberry and adding one drop of chloroform to every grain of chloral.

By the Rectum.—Chloral hydrate is peculiar in that it acts with about the same rapidity and intensity when given by the rectum as when given by the mouth. Indeed, some authorities§ claim that it acts more rapidly when given by this channel. It has been found of great advantage to give it in this way in two classes of cases:

1. Those where, owing to some spasmodic or convulsive affec-

* *N. Y. Med. Record*, 1870, p. 328.
† *Bull. Gén. de Thérap.*, Mar. 30, 1870.
‡ *Lancet*, June, 1871.
§ Bouchut, op. cit.

tion (tetanus, puerperal convulsions), it is impossible or very troublesome to give it by the mouth, and

2. In cases where, from inflammatory or other affections of the stomach or throat, it is not deemed advisable to give the drug by the mouth, owing to the possibility of causing a local irritant action.

It may be exhibited either in the form of suppository or enema. The former is preferable in those cases where there is irritability of the rectum and a quantity of fluid cannot be tolerated.

It is a matter oftentimes overlooked by physicians, that chloral hydrate is a ready solvent for fats, so much so that solid fat becomes liquefied by contact. For this reason, cocoa butter, the usual vehicle for suppositories, is inadmissible for making them with chloral, as in such case a soft, oily mass, altogether too fluid for anything but an ointment, results. If it is desired to use a solid extract with the chloral, the difficulty is still further increased, for the little water necessary to moisten the extract before "working" it, greatly increases the fluidity of the oleaginous mixture. A writer in the *Druggists' Circular and Gazette*,* after a number of experiments as to the best excipient, found that equal parts of spermaceti and oleum theobromæ have the advantage over any other. This proportion is suitable for a suppository containing ten or twelve grains of chloral. If more is used, the amount of spermaceti must be increased.

M. Catillon,† in a communication to the Société de Thérapeutique, recommends the following formula:

Chloral hydrate.....	1 part.
White wax, Cocoa butter, aa.....	2 parts.

for plasters, suppositories or bougies.

Whidborne‡ finds a suppository mass composed of one to two drachms of chloral hydrate, made up with hard soap and honey, very useful.

---

* Feb., 1877.

† *Gazette Hebdom.*, Jan., 1879.

‡ Quoted by A. E. McRae, *Edinburgh Med. Journal*, Nov., 1871.

Paul,* who uses suppositories of chloral hydrate only for their local action in cancer, etc., employed the following as a basis:

Cocoa butter	30 grains.
Spermaceti	45 "
Powdered charcoal	45 "

Enemata.—It is by enema that chloral is most often given by the rectum. Given in pure water, it, after a few injections, and sometimes in the first instance, produces considerable irritation.

Dr. G. de G. Griffith† finds it of great advantage to beat up the drug with one or two raw eggs, and to this add a little warm milk. He has used chloral and bromide of potassium in this way in a number of instances, without producing any irritation, and with the best effect on the disease. Dujardin-Beaumetz‡ has used the same base for exhibiting plain chloral with the best result. Leo Testa§ also speaks highly of it.

The use of chloral hydrate by rectal injection is spoken of as the best by Ernest Labbec.¶

Those diseases in which chloral hydrate has been used with special advantage, will be fully discussed in a subsequent article.

Subcutaneously.—Chloral hydrate was at one time extensively used hypodermically, but has long since fallen into disuse, owing to the commonly occurring accompaniment of pain, inflammation and abscess. Bartholow‖ claims that when used subcutaneously, this drug has the power of relieving pain, which it has not when given by the stomach. Labbec,** on the contrary, asserts that its action is no way different by this mode of exhibition than by any other. Having tried it in several cases, I have found that it has distinct pain-relieving power, especially in the simple neuralgiæ. Given thus with morphia, the action of both drugs is increased.

Severe inflammation and abscess are not uncommon. Picòt††

---

* *Bulletin Gén. de Thérap.*, Avril, 1875.
† *British Med. Journal*, May 8, 1875.
‡ *Bulletin Gén. de Thérap.*, June 15, 1876.
§ *Gaz. Méd. de Bordeaux*, 1875, vol. 90, p. 332.
¶ Du Chloral, *Bull. Gén. de Thérap.*, 1870, T. 2, p. 330.
‖ Hypodermic Medication, Phila., 1879, p. 190.
** *Bull. Gén. de Thérap.*, 1870, T. 2, p. 330.
†† *Gaz. Hebdom. Méd. et Chirurg.*, 1869, p. 776.

found that subcutaneous injection of chloral hydrate into the ears of rabbits was always followed by intense inflammation, these organs in most instances becoming gangrenous and falling off. Laborde* found severe inflammation, abscess and gangrene to follow hypodermic injections under the skin of guinea pigs and other animals. Colin† does not seem to have had the same bad results. He cautions, however, against the use of a strong solution, and advises not to inject in the neck or in the neighborhood of joints.

Namias,‡ of Venice, has used the drug in this manner frequently and with good results in supra-orbital neuralgia. He never observed eschars or abscess where a sufficiently diluted solution was employed. Liebreich,§ while not advocating this practice, says that he has never had abscess follow when using a platino-iridium syringe. Fairland,¶ staff surgeon, Lucknow, has used it hypodermically in cholera without the production of abscess. In a case of uræmic convulsions, and one of delirium tremens, in the Cook County hospital, Chicago,‖ chloral hydrate was given subcutaneously and no abscess resulted.

Tizzoni and Fogliata** found, after an elaborate series of experiments, that gangrenous abscesses often resulted from the hypodermic or intra-venous injection of chloral hydrate. Drs. A. Ady,†† of West Liberty, Iowa; A. M. Campbell,†† of Mt. Vernon, N.Y.; Wm. Judkins,†† of Cincinnati; Walter Edmunds,†† of London, Eng.; G. W. Davis,†† of Chico, California, and F. L. Forsyth,†† of Providence, R. I., have seen inflammation, abscess or sloughing follow. Bouchut‡‡ does not believe that this method of giving chloral hydrate is free from danger: that of inflammation, gangrene and abscess. Sir James Simpson§§ saw slough

---

* *Archiv. Gén. de Méd.*, 1869, T. 2, p. 758.
† *Gaz. des Hopitaux*, 1874, p. 611.
‡ *Archiv. Gén. de Méd.*, 1870, T. 1, p. 240.
§ *Berlin Klin. Wochenschrift*, No. 43, 1870.
¶ *British Med. Jour.*, Jan. 27, 1877.
‖ *N. Y. Med. Record*, Aug. 14, 1880.
** *Lancet*, Nov. 11, 1876.
†† Personal communication.
‡‡ Cte. Rendu, *Ac. des Sciences*, 1869, p. 966.
§§ *Edinburgh Med. & Surg. Journal*, May, 1870.

follow this method in one case, as did Giraldes,* Ogle† and Nairne‡ in several cases.

The pain, inflammation, sloughing and abscess so often seen to follow the hypodermic use of this drug, are undoubtedly due to its acidity. This may be effectually neutralized by the addition to the solution, *at the time of giving*, of carbonate of soda as recommended by Oré. One grain of carbonate of soda will effectually neutralize the acidity of 20 gr. of chloral hydrate, and while doing away with pain and subsequent inflammation, will in no way impair the activity of the drug.

In making these injections, care should be taken that a vein is not punctured (the cellular tissue of the shoulder over the deltoid being the best site for operating, the needle being introduced at a right angle to the long axis of the limb), that the chloral is fully neutralized and the solution well diluted. The plan of giving chloral by the rectum, when it cannot be given by the mouth, is so simple and efficacious that the hypodermic plan is seldom called for—chiefly in neuralgic affections. In these cases, morphia and atropia may, with advantage, be combined with the chloral, or what is better, give an injection of choral first and then one of morphia and atropia soon after, for the alkaline solution of chloral will precipitate the morphia if all are given together.

Intra-venous Injection.—The intra-venous injection of chloral hydrate is, in my opinion, never justifiable. Oré, the great champion of this method, still believes in it and occasionally practices it. When first brought before the profession and so ably advocated by this gentleman, it found many supporters in France and Germany, and almost none in England and America. It was used for two purposes: 1st, and chiefly, to produce profound anæsthesia; 2d, to relieve severe spasm, as in tetanus and diseases of like nature. As we know, its use by the rectum or hypodermically is quite sufficient in the latter class, and in the former we have much safer and quite as efficacious agents as chloral.

---

* *Gaz. des Hôpitaux*, 1869, p. 523.

† *Practitioner*, 1870, p. 267.

‡ *Practitioner*, July, 1875.

Successful, at first, in a few cases, deaths* soon began to result, and in 1874 the French Academy condemned the practice as dangerous and unjustifiable.

Vulpian† found, in experimenting on dogs, that death resulted in several cases, and occasionally hæmaturia. Colin‡ found, in experimenting on animals, that a strong solution, or the rapid injection of a weaker solution, caused death by syncope. Oré,§ the great exponent of this method, says that the hæmaturia observed by Vulpian in animals has never occurred in man. In this article he refers to fourteen successful cases, and makes the following statements based thereon: "An essential condition of success consists in making the puncture without laying bare the vein, and especially without dissecting or isolating the vessel. If the subject is too fat to permit of this, and the veins are scarcely apparent, a cut should be made over the vessel, sufficient to expose its outside, and the puncture he made directly, without separating the vessel from neighboring tissues."

The strength of the solution is 1 to 4, sometimes 1 to 6. "Whatever the solution, our observations teach us that no less than 5 grams are needed to produce anæsthesia, and from 5 to 8 grams are necessary to obtain sufficient anæsthesia to permit of the performance of a capital operation. Insensibility of the cornea is taken as a test for general anæsthesia. One gram a minute may be injected until the necessary amount is introduced. The canula should not be left in the vein too long, or a clot will form."

He sums up by saying: "1. There is never any respiratory trouble. 2. Insensibility, varying according to the amount of the dose, is produced. 3. There is no preceding period of excitement. 4. There is never any vomiting. 5. The anæsthesia is always followed by deep sleep, which is calm and regular, and which lasts from ten to twenty-four hours, thus doing away completely with all the evil after-effects of the operation. 6. There is never phlebitis, clots or hæmaturia, if the injection is properly made."

---

* Lande, *Med. Times & Gazette*, Jan. 16, 1876.
† *Bulletin Gén. de Thérap.*, vol. 86, 1874, p. 544.
‡ *Bulletin Gén. de Thérap.*, vol. 87, 1874, p. 80.
§ *Bulletin Gén. de Thérap.*, vol. 87, 1874, p. 468.

A case of hydrophobia is reported* in which 13 grams were injected one day and 20 grams the next. Death occurred on the second day from orthopnœa. The veins were found in good condition, there being neither thrombi or emboli found.

The intra-venous use of chloral for the purpose of producing sufficient anæsthesia to permit the performance of capital and other operations, has been fully tried† and by the majority of operators condemned.

Sigs. Tizzoni and Fogliata‡ conclude, from forty experiments, "That chloral injected into the veins does not act as a true anæsthetic, but simply as a strong hypnotic. That it is very dangerous, and that the evil effects, when they show themselves, cannot be combated; also, that phlebitis is easily induced."

Dr. Noir,§ of Brioude, France, amputated a leg, the patient being fully anæsthetized by means of the intra-venous injection of 75 grains of chloral. Alarming collapse occurred upon waking, and was followed by violent delirium. He does not favor its use.

Experiments on animals, to some of which I have already referred, prove to us that the danger from syncope is quite as great as that from clot. This is further clearly demonstrated by the experiments of V. Chiorne.¶ He found that phlebitis was not an uncommon occurrence, and has seen animals die from arrest of the heart's action in diastole.

Francis, Frank and Troquart, in experimenting in Marcy's laboratory, found that the intra-venous injection of large doses of a concentrated solution of chloral caused arrest of heart and

---

* Rép. de Pharm., 1874.

† Landrin, *Archives Gén.*, 1869, T. 2, p. 755. Guerin, *Bull. Gén. de Thérap.*, vol. 86, p. 330. Bouchut, *Archiv. Gén. de Méd.*, 1869, T. 2, p. 755; *Gaz. des Hôpitaux*, 1878. p. 745. Labbée, E., *Bull. Gén. de Thérap.*, 1870, T. 2, p. 330. Deneffe and Van Wetler (*Gaz. des Hôpitaux*, 1874, p. 569), *Med. Times & Gaz.*, Oct. 1874. Bouillaud (L'Institut), *Med. Times & Gaz.*, Aug. 14, 1875. Redier (*Jour. des Sci. Méd. de Lille*), *Druggists' Circular*, Aug., 1879. Tizzoni and Togliata (*Revista Clin. di Bolog.*, Fas. 12, 1875), *Lancet*, Nov. 11. 1876. Giraldes, *Gaz. des Hôpitaux*, 1869, p. 523. Noir, *Gazette des Hôpitaux*, 1869, p. 590. Liebreich, Das Chloral Hydrat, Ein neues Hypnoticum und Anæstheticum und dessen Anweudung in der Medicin; Berlin, 1871. Valentinotti and Sylvestri, *Gaz. Obstétricale*, Feb., 1874. p. 29. Nairne, *Glasgow Med. Jour.*, July, 1875. Mauriac, *Gaz. des Hôp.*, 1870, p. 405. Oré, *Gaz. des Hôpitaux*, 1872, p. 524; 1874, p. 611. Linhart, Lande, *Bull. Gén. de Thérap.*, vol. 91, pp. 35, 82.

‡ (*Revista Clin. di Bolog.*, Fas. 12, 1875), *Practitioner*, 1877, p. 214.

§ *Gaz. des Hôpitaux*, Dec. 29, 1869.

¶ (*Lo Sperimentale*, Fasc. 1, 1876,) *Allg. Med. Cent. Zeit.*, April 29, 1876.

respiration, and show clearly that the arrest of the heart's action is due to contact of chloral with the endocardium, and not by action on cerebral centers.

Intra-venous injection of chloral hydrate, then, is dangerous from the fact that phlebitis may follow, a clot may form, and the fatal syncope may result. As has already been said, I consider the practice unsafe and unjustifiable.

Inhalation.—Richardson* administered chloral hydrate by inhalation. He dissolved the chloral in ether and then caused it to be inhaled. Mandl† has used cigarettes containing chloral for inhalation.

Those preparations of chloral used locally will be discussed under the head of those diseases calling for the local application of this drug.

ARTICLE VII.

CELLULITIS OF NECK ACCOMPANIED BY ŒDEMA GLOTTIDIS; DIFFICULT LARYNGOTOMY.

By G. FRANK LYDSTON, M.D., House Surgeon, Charity Hospital, New York.

I submit the following history of a very curious case, which may prove interesting. The patient, J. M. Labover, æt. 27 years, entered hospital November 30, with the following history. He stated that he had been on a spree for a week past, and that he had eaten no food for four days, but that he was perfectly well until three days previous to admission. At that time he noticed a small sore beneath the ramus of the jaw on the left side of neck, which was followed by considerable swelling, and shortly after its appearance patient was seized with a severe chill, followed by fever, headache, thirst and vomiting—the headache being especially marked. There was slight pain at situation of ulceration above mentioned. The headache had grown very severe, especially during last two days, there being exacerbations of pain, followed by nausea and vomiting. This pain is now referred principally to crown of head and occiput. Has suffered from insomnia since beginning of trouble.

---

* Quoted by Ernest Labbee, *Bull. Gén. de Thérap.*, 1870, T. 2, p. 330.

On admission, a diffuse, boggy swelling appeared on left side of neck and face, extending to clavicle and somewhat below it, and there being some swelling of right side of the neck. There was no redness, excepting in posterior part of neck on the left side; no heat, and very slight tenderness on pressure. On the left side of neck, just below the ramus of the jaw, was a red, elevated, and somewhat ulcerated oval patch, about one inch in length by half an inch in breadth, this being surrounded by well-marked induration. The lymphatic glands of neck, and parotid and submaxillary glands, were enlarged and tender. No history of injury could be obtained.

An examination of throat revealed considerable swelling and redness of fauces, especially on the left side, in which situation a tumor could be discerned. Reflex sensibility was so exaggerated that the slightest attempt at examination of the throat caused retching. When the first examination was made, patient was able to stand, and being a remarkable specimen of muscular development, measurements of chest and arms were made, the examination not seeming to exhaust him much. A short time after the examination, however, the patient requested permission to go to bed, saying that he was too ill to stand; and a bed was given him at 12 m., Dec. 2d. He lay but a short time, however, when he suddenly sprang out of bed and began staggering about the ward, saying that his head pained him so that he could not lie still.

Respiration appeared to be quite embarrassed, although patient made little complaint. I ordered him to bed, and administered liq. morphiæ, U. S., ℥ij. The patient was not at all violent, but refused to assume the dorsal decubitus, apparently on account of dyspnœa, although he referred it to the intense cephalalgia from which he was suffering. A saline cathartic was given, followed by stimulants and quiniæ sulph. gr. v every three hours. The lotio plumbi et opii was applied to the neck. The temperature at 1 p. m. was 103½ Fahr., pulse 120, full, but soft and compressible. Shortly after taking the morphia, patient drank freely of beef tea, and in a short time fell into a heavy slumber, from which he could with difficulty be aroused for the administration of remedies. He remained in this condition until 5:30 p. m.,

when he aroused somewhat, but would swallow nothing, and resisted the administration of remedies by the rectum. He speedily relapsed into a semi-comatose condition, from which he did not again arouse. The lotio plumbi et opii was now replaced by hot poultices, renewed every fifteen minutes, with stimulants per rectum, and hypodermics of tr. digitalis and ammon. carb. I did not see the patient again until 10 p. m., but during this time, his dyspnœa rapidly increased, and patient had three short clonic convulsions. He was seen by the house staff at 9 p. m., and hypodermics of whisky and digitalis given. The pulse at that time was very feeble and intermittent, and the respiration was markedly obstructed. At 10 p. m. I again saw the patient. Respiration was now greatly embarrassed, the obstruction being chiefly confined to inspiration, the pulse still feebler than when last seen, and very intermittent.

The jaws were tightly set, and it was with great difficulty that I succeeded in introducing my finger into the pharynx, and experienced considerable trouble in reaching the glottis, the larynx being displaced downwards and to the right.

The glottis was found to be very œdematous and the fauces very much swollen. The swelling of the neck was now greatly increased, having extended to a considerable degree across the median line and to the posterior portion of neck, giving the head and face a very peculiar appearance. The eyes were now rolled upwards, and fixed, and pupils dilated, face and lips cyanosed, respiration still more obstructed.

Respiration became completely suspended several times for a short period. At 11 p. m., the pulse and respiration being very feeble, laryngotomy was performed. The swelling and infiltration of tissue was so great that absolutely nothing in the way of landmarks was perceptible on palpation, and as the patient was very stout, and muscular, and the neck very short, the difficulty in reaching the larynx was necessarily very great. An incision was made in the median line, and a careful but rapid dissection made in that situation.

The hæmorrhage was very profuse, as a result of venous engorgement. The larynx was displaced about half an inch to the right, by pressure of inflammatory products.

The pulse became imperceptible, and respiration entirely ceased, necessitating a rapid termination of the operation, and an incision being made in crico-thyroid space, a large tracheotomy tube was introduced, and by artificial respiration, patient restored so that heart's action and respiration were resumed.

Cyanosis now disappeared, but patient still remained comatose.

Stimulants, and digitalis, and shortly afterward, atropia, were given hypodermically. At 1:30 a. m. the temperature was 104° Fahr. Respiration grew very peculiar, there being a series of forcible inspirations, with occasionally complete suspension of movements, followed by several gasping inspirations.

On performance of artificial respiration breathing was resumed as before. After administering the atropia, respirations grew very forcible, and 60 per minute. A sponge bath was given at 2 a. m. The trachea was several times partially cleared of blood, by the use of a large syringe and rubber tubing, but not proving efficient, forcible expulsion of the blood was caused by throwing weight forcibly against the thorax, at termination of a full inspiration, an assistant catching the blood quickly with a sponge. In this manner quite a quantity of blood was removed. The patient remained comatose, and died at 4:30 a. m., five and a half hours after operation, apparently from failure of respiratory sense. On autopsy, nothing distinctive was discovered save œdema glottidis, which was very marked. Absolutely nothing was discovered to account for the cerebral symptoms which were manifested.

REMARKS.

The points of interest in the case are these: The evident malignity of the case, as evidenced by its rapid course, after admission to the hospital; its obscure nature; the occurrence of intense œdema glottidis as a result of the cellulitis of neck, and apparent presence of an element of a toxical nature. The inference which I drew from the symptoms, and history of the case was, either that he had received an injury while intoxicated, which subsequently became inocculated with some septic poison with cellulitis as a consequence, or that he had been stung by some insect. The case in some respects, was not unlike "malignant pustule" so-called. There was evidently some interference with

the respiratory sense, which was not accounted for by any pathological change in the brain or its membranes.

Congestion from obstruction to the return circulation, may possibly have been the cause, but there were no post-mortem evidences of it. I can not imagine a more unfavorable case for laryngotomy unless in such cases as of tumor covering the larynx and trachea. The operation itself was successful inasmuch as it fulfilled the indications present, and if the result of the case had depended entirely upon the œdema glottidis, it would have been favorable. It illustrates very forcibly the fact that no delay in operating is admissible in cases of the kind, and in a similar case, I should operate much earlier. The prompt stimulation of the respiration by atropia, and the method adopted for clearing the trachea of blood, were also interesting features of the case.

THE INTERNAL ADMINISTRATION OF THE ETHYL BROMIDE.—Satisfied as to this, we were determined to obtain information as to its action when administered internally; and for that purpose gave to three of the animals respectively 10, 20, and 30 minims of the ethyl. While producing in the larger doses more markedly a slight intoxication, no other serious symptoms arose. Encouraged by this, we commenced taking it ourselves, well diluted, first in doses of 5 and 10, and then 25 and 30 drops, without discovering any noticeable effect, save that of slight sleepiness induced by the larger doses. A nervous headache, existing during these experiments, seems by the ethyl to have been entirely relieved, which however might have been the case had any other bromide been taken instead. That it may prove of decided benefit in nervous irritation and hysteria is readily to be inferred herefrom.

To the taste it is sweet and pleasant, but heating to the mucous surfaces, and it should be well diluted before it is administered.—*L. Wolff.*

Clinical Reports.

NOTES FROM HOSPITAL PRACTICE.

ARTICLE VIII.

Surgery in Mercy Hospital.

In presenting this incomplete sketch of surgical work in Mercy Hospital, I purpose speaking of the general management of cases, number and character of operations, and of results, hoping to give such facts as will interest and instruct the reader.

Too many reports that find their way into medical journals are composed of glittering generalities, sparkling rhetorical figures that illuminate the *successes* while they obscure the instructive *failures*. The data for this report may be found in the daily Surgical Records of the Hospital from October 1, 1879, to April 1, 1880.

Surgical patients have "*the best the house affords*," of large, well-lighted, well-ventilated wards, and equally well-lighted, and ventilated elegant private rooms. Especial attention is given to heating and ventilating all apartments.

Dr. Edmund Andrews, Prof. of Principles and Practice of Surgery in Chicago Medical College, is Surgeon-in-Chief, the House Surgeon acting entirely under his orders. Each patient has his own sponges, towels, wash-bowls and bandages; in no case is he allowed to use his neighbor's. All wounds are dressed by the house surgeon or his assistants, who are members of the *middle* or *senior* classes at the Chicago Medical College. Nurses are not allowed to do dressing.

Wounds are dressed *once* or twice a day, as the case demands, and treated in the following way: first, they are thoroughly

cleaned with tepid water containing two and a half per cent. carbolic acid, then covered with cotton saturated with olive oil containing eight per cent. carbolic acid; this is held in place by several turns of a roller bandage.

After dressing each patient the dresser disinfects his hands and instruments that the next patient may not be contaminated. The house surgeon makes a careful record of each patient's condition at least twice a day. Sulph. cinchonidia, quinine and the preparations of iron are used for general tonic purposes; quinine, aconite and salicylic acid are employed to control temperature and pulse.

In all operative cases, when it is possible, a preparatory course of treatment for a few days is employed, that the system may be in the best possible condition for operation. Dr. Andrews performs all operations in the Hospital amphitheater, in the presence of the class from the college. Ether is the anæsthetic employed. The result of some experiments with ether will appear later in this report.

During the six months previously mentioned there were 163 surgical cases treated in Mercy Hospital; 125 operations performed; 75 of these under an anæsthetic. Among some of the most important cases were 20 of fractures, 10 necroses, 2 stone in bladder, 6 epithelioma of lip, 5 hare-lip and cleft palate, 13 cancerous and fatty growths, 2 abscess of tibia, 3 aneurisms, 2 extrophy of bladder, 2 amputations and 1 tracheotomy, performed.

The average time that fracture cases remained in the Hospital was 27 days, necrosis cases remained 47 days, amputations 23 days, staphylorraphy cases 15 days. Abscess of tibia 21 days, epithelioma of lip 12 days, and removal of other growths 14 days.

Of the whole number of cases treated 78 were discharged cured, 63 improved, 16 unimproved, and 6 died. Showing that *about* three and a half per cent. of all proved fatal, ten per cent. unimproved, thirty-nine per cent. improved, forty-nine per cent. cured.

It being thought that a volatile oil mixed with ether would lessen the tendency to vomit, we tried the use of ℥j of oil of turpentine to 1 pound can of ether, in 74 cases of which 21 vomited.

Twenty-eight cases were tried without the turpentine, 6 vomited. About twenty-eight per cent. of the former and twenty-two per cent. of the latter vomited. We stopped the use of the turpentine. (Twenty-five of the above cases were in Dr. Andrews' private practice.)

A report such as this must ever be incomplete and fragmentary, but if any information can be derived from it I shall be well pleased. As I previously remarked, every statement here is based on the surgical records of the Hospital, and can be verified by reference to them, now in possession of Dr. Edmund Andrews.

J. J. LARKIN, M.D.,
Former House Surgeon, Mercy Hospital, Chicago.
SOUTH CHICAGO, Dec. 15, 1880.
Cor. Commercial Ave. and 92d St.

NOTES FROM PRIVATE PRACTICE.

ARTICLE IX.

Beef Suppositories.

Though the rectum is, strictly speaking, an excretory organ, it may nevertheless, by virtue of its absorbing power, take the place of the stomach and small intestine in the ingestion of medicinal and alimentary agents. Dupuytren used to say that, owing to the absence of digestion the agent passes more directly, more purely and more surely to its destination from the rectum than it does when taken by the stomach. Hence the speedy efficacy of chloral in mania and the vomiting of pregnancy; of opium and ipecac in dysentery, etc. With this fact in view I have lately used Johnston's or Liebig's beef extract incorporated with cocoa butter in the form of suppository to support life in chronic gastric disorders, adynamic diseases and all cases where the administration of food by the ordinary channel was impossible. The beef is easily combined with the butter, or to save time or for other reasons, the hollow suppositories may be used. The advantage of these suppositories over the beef *injection* will immediately commend itself. DR. JAMES I. TUCKER.

Foreign Correspondence.

ARTICLE X.

VIENNA, November 20, 1880.

EDITORS MEDICAL JOURNAL AND EXAMINER:

The winter session opened October 11, with a large attendance, including a delegation of some 150 Americans. New York and Boston furnish, perhaps, one-half of our countrymen here, the Western cities being rather scantily represented. Chicago has at present four representatives here; St. Louis and Cincinnati each three.

The university has recently sustained a severe loss, as you have doubtless learned, in the death of Prof. Hebra, and has this week been called upon to mourn the loss of the senior surgeon, Dumreicher, who enjoyed a very high European renown, though in America not so famous as his colleague, Billroth. Hebra has been succeeded by his son-in-law, Kaposi, for many years his hospital assistant. Dumreicher's successor will probably be Czerny, of Heidelberg.

The teaching in obstetrics here offers several points of interest. They esteem very highly, and practice very skillfully, the *external* examination of the pregnant woman, a proceeding by which the position and presentation of the child can be in almost all cases accurately determined without vaginal examination, in some instances even when the latter proceeding gives negative results. The advantages of such a measure, more especially in private practice, are obvious. They are very successful, too, in avoiding serious ruptures of the perineum. For this purpose they oppose the uterine contractions as soon as the perineum is somewhat distended, pressing the head not only upwards against the perineum,

but also backwards toward the promontory. If rupture still threatens they make epiphyseotomy, cutting one or both labia slightly, just below the venous plexus. After the expulsion of the child the hand is never, under ordinary circumstances, introduced into the vagina; the placenta is expelled by Crédé's method and carefully examined as to its integrity; the parturient canal, uterus included, is carefully and thoroughly washed out with a two per cent. carbolic acid solution applied by means of a fountain syringe. The uterus is compressed and kneaded daily for three days after delivery, each compression being followed by an irrigation. To these measures is credited the fact that among the ten thousand annual deliveries in the hospital, many of them attended by men who are at the same time dissecting, puerperal fever is a comparative rarity.

The application of the forceps is here considered advisable whenever the head has for three hours failed to advance. Simpson's forceps is almost invariably used. Braun recently exhibited and discussed the very elaborate new forceps of Tarnier, deeming it a useful instrument in special cases only.

Braun advocates very strongly the extirpation of the pregnant uterus with ovaries as a substitute for the Cæsarean section, not simply because of the subsequent immunity from similar operations conferred upon the patient, but because the operation is, in his opinion, less dangerous than the Cæsarean. He shows a record of six cases with four recoveries. His colleagues, however, both in and out of Vienna, are by no means so sanguine; indeed the collective statistics scarcely give the operation any claim to superiority over the old one, the results in Italy, where the measure originated, having been especially unfavorable. Braun maintains his opinion, however, and hopes to repeat the operation soon on a woman with deformed pelvis—conjugate diameter six centimeters—now in the hospital.

The point is really one of some importance here in Austria, where rachitis is so prevalent among children, and hence, deformed pelvis, so numerous among adults.

In gynæcology I have seen nothing especially new. They tacitly admit here that America leads the world in this branch, and speak with generous admiration of Sims and Bozeman, from

whom they confess to have learned several things about operations on the cervix, and on vaginal fistulæ.

Stricker is out this year with a series of new observations upon points both old and new. Among other things he fires, to use his own words, "the last dart required to demolish" Cohnheim's emigration theory as to the origin of pus. By means of artificial irritation, Stricker induces suppuration on the center of a frog's cornea, a tissue which, as is well known, contains no blood-vessels in the normal state, and in which none are developed until after the appearance of pus around the focus of irritation. In this tissue he demonstrates to his class the formation of pus through the swelling and subdivision of the corneal cells, the intercellular substance at the same time disappearing. No emigration of corpuscles to the inflamed point can be discovered. Stricker insists that Cohnheim, while demonstrating indisputably the emigration of the white corpuscles, quietly assumed that these corpuscles constituted pus.

His chief efforts however, have been devoted to the elucidation of several points in the pathology of the nervous system, employing for this purpose, in addition to other lower animals, several apes. His results I shall hope to communicate to the JOURNAL in my next.

W. T. BELFIELD.

BINDING ADVERTISEMENTS IN MEDICAL BOOKS.—Blending books and catalogues is never agreeable, but when it comes to putting in about as much catalogue as there is book it is time that something were said against it in self-defense. No less than *sixty* pages of a book-list appear in the recent reprint of Savage's *Female Pelvic Organs*, published in Wood's Standard Series for 1880. What otherwise must have proved in every way an attractive volume is completely spoiled in its appearance. As a specimen of book-making, aside from its well-executed plates, it is decidedly the most execrable that has confronted us for many months.—*Medical Library Journal.*

Domestic Correspondence.

ARTICLE XI.

PHILADELPHIA LETTER.

MESSRS. EDITORS:—A glance at the social aspects of professional life in this city may perhaps not lack interest for your readers, and although your correspondent cannot at this time enter into detail, nor indeed do more than touch upon one or two points of this subject, yet to the intelligent man, and especially to the physician, the life of his professional brethren in a distant city cannot be altogether uninteresting, and may in some aspects be highly instructive by example or warning.

One of the characteristics of professional life here in Philadelphia is our comparative freedom from those bitter feuds and heart-burning jealousies which prevail in other large cities, where perhaps there may be more inequality of success than with us, and where the race for wealth alone is more reckless and furious than with our comparatively cool and calm citizens.

But if we are comparatively free from some of the faults of our neighbors, we suffer from others to which perhaps they are less subject. Possibly we are too prone to underrate our home talent, and I have heard it said that in Philadelphia a reputation is the echo of foreign rumor, and that it is not until a man is the recipient of honors from distant parts that his fellow-townsmen begin to wake up to the fact that So-and-so has more in him than any one suspected. Our Quaker progenitors are answerable for some of this feeling; they used to put down with a firm hand any attempt at show, and especially if this was not backed by substance. When I was a medical student, a rather seedy-looking old gentleman used to haunt the hospital, of whom the story

was told that his professional life had been blighted by the severity of the "Friends." It was said that on entering into practice, young Benjamin, who was a "Friend," assumed a modest but stylish turn-out, with which he could be seen driving rapidly up and down the streets of the Quaker city, then (for it was sixty years ago) much quieter and smaller than now, and attracted the attention of the good people going to "meeting" by the evidently thriving practice the young man enjoyed. In a few weeks, however, the young man was waited upon by two solemn brethren in portentously broad brimmed hats, who said, "Benjamin, the meeting understands that thee hast been seen of late driving about the streets of this town in a new and expensive vehicle called a gig. Now thee must know that the friends are aware thee hast no need of such a conveyance, and that thee canst ill afford the expense thereof. We therefore admonish thee that thou at once give up this idle display, or thee wilt render thyself liable to discipline." The gig was given up, but the poor young doctor never recovered from the blow, and though gaining some reputation, he never gained sufficient practice to warrant the purchase of a vehicle. There in his office, where the old broad-brims admonished him, he has lived all these years, and as I sometimes pass the little old-fashioned house away down town, and see the battered sign with the letters long illegible, and the gray-haired old gentleman sitting inside, I think of this story current among the hospital students, and think that if it wasn't true it was typical.

Perhaps, however, though this democratic levelling and universal combination against undue pretension has its evil and narrowing side, yet it also has its advantages, and perhaps not least among these is that it is conducive to social amenities among the members of the profession at large. We have clubs of all kinds, large and small. Book clubs for the dissemination of medical literature which, especially in the outlying parts of the city, take on a social aspect and perhaps have a club-room and a library made up of the volumes which have circulated among the members. Some of these clubs and associations have festal gatherings from time to time, when the enjoyment is of a material sort; others meet to read papers or invite some big gun or specialist to read a paper before them. Then there are other

circles of a purely festive sort, meeting regularly week by week at the houses of the various members. An attempt at social enjoyment on a larger scale has been initiated this season, in the form of a series of receptions given by the president of the County Medical Society. This is our largest and most active society, and is truly representative. Here one may see the semi-rural practitioner, with mud-splashed boots, sitting cheek by jowl with the elegant and polished consultant, and the newly-fledged graduate drinking in the utterances of the professor who is holding forth on his specialty or his hobby. There is no better place to feel the pulse of the profession of Philadelphia, and no surer and quicker road to practice than is found there by those who show themselves the possessors of that sort of knowledge which the average practitioner wants to call upon in his hour of need.

Dr. Albert H. Smith, the well-known gynæcologist, is the present president of the "County Medical," and his receptions have been a marked success, and must redound to the advantage of the society. Not only all the members of the society have been at one time or another present at these agreeable reunions, but many outsiders who have been invited have found for the first time the advantage of meeting representative men, and have been induced to such membership, so that the aim of its promoters to limit the membership of the society only by the number of practitioners in the county, seems more likely of realization than one might suppose.

The medical profession here has been honored in the choice of one of its members to preside over our chief seat of learning, the University of Pennsylvania, Dr. William Pepper, Professor of Clinical Medicine in the Medical Department, having been recently elected by the trustees "Provost" of the University.

Such an honor does not often fall on so young a head (the new Provost is barely thirty-seven), and it is indeed rare to find among our busy and "practical" medical men the high general culture requisite to sustain this dignified position. But Dr. Pepper is no ordinary man. From early youth he has been marked as one likely to achieve more distinction than falls to the lot of men of average ability. At college I am told that he was easily first in everything, graduating at the head of his class and carrying off all the prizes in every branch. Not very long after

his graduation in medicine—at the early age of twenty-four, in fact—he obtained the position of attending physician to the medical department of the City Hospital, having at least 200 beds under his control. Here Dr. Pepper laid the foundation of the extensive and accurate clinical knowledge for which he is so distinguished. Every morning, punctually at half past seven, he was accustomed to make his appearance in the ward, and accompanied by the resident physician, who was expected to take full notes from his dictation, he went from bed to bed, working thus until nine, when he left the wards and spent an hour in the post-mortem room, there also dictating copious notes. His clinical lectures, even at that time, were models of terse and flowing English. A rapid speaker, never hesitating for a word, his utterance singularly clear and musical, he rivetted the attention of his audience, and aside from the value of his teaching delighted those who had an ear for delicate shades of meaning by choosing instinctively the exact word or expression which would best convey the idea. I speak in the past tense because my knowledge of Dr. Pepper as a hospital physician and lecturer is confined to that period of his career, and I have rarely heard him lecture of late years, although I have no doubt he still maintains the high reputation made at that time.

His first literary work was in connection with Dr. J. Forsyth Meigs, of this city, in getting out a new edition of this gentleman's work on diseases of children. It is an open secret that the major part of this edition, which was in reality almost a new book, was written by Dr. Pepper. The reputation it has made is very great, and "Meigs and Pepper" has become one of the standard works on the subject of which it treats. But Dr. Pepper's genius shows more in the executive ability which he displayed in reanimating the moss-grown and decrepit medical department of the University. Ten or twelve years ago this had fallen into a mouldy decline. Content to dwell in the glories of the past, the Professors appeared careless of the present reputation of the institution under their charge, which was rapidly falling hopelessly behind the age. At that time, so meagre was the clinical instruction afforded that students have been known to graduate without ever having felt a pulse or touched a sick person.

Out of this slough, Dr. Pepper, aided by a few other young men, dragged the palsied and decrepit *Alma Mater*, set her on her legs, and not merely galvanized her into life, but by a judicious transfusion of new blood, rejuvenated her and placed her in the first rank among American medical institutions. The man who could do that was evidently the man to raise the whole University, and the election of Dr. Pepper to the Provostship has been hailed by all the friends of the University, one of whom, a wealthy merchant, has just given $50,000 for the purpose of building a new wing for the University Hospital. One of our morning papers compared Provost Pepper's proposed work to the labors of Hercules, but we have in him a Hercules of sufficient energy to do the work. His device, which I happened to see in a book-plate in one of his books, is a thorn-bush with the motto of Sainte Aldegonde, one of the noblest spirits who ever lived, "*Repos Ailleurs.*" And this active spirit which, not content with the duties of hospital physician and Professor of Clinical Medicine, with a large practice, desires for itself more occupation, will doubtless succeed in this task, also, as in all others hitherto undertaken.

Among smaller matters of local interest I may mention the appearance of a joint work on typhoid fever by Prof. Da Costa and Dr. Ellwood Wilson. The former, who is getting out a new edition of his famous work on diagnosis, is too well known to need further mention. Wilson has only a local reputation; he is, perhaps, the most fashionable doctor in town; for a Philadelphia woman to lie-in without Wilson in attendance, is to forfeit the consideration of society. Prof. H. C. Wood has just gotten out a work on diet in disease, in collaboration with Dr. J. Milner Fothergill, of London. The second edition of Prof. Duhring's "Treatise on Diseases of the Skin" will be out in a few weeks; it is like a new work, the author having revised every page with the painstaking care characteristic of himself.

Your readers who have followed the history of the notorious "Dr." Buchanan, will be interested in hearing that he has been fined $500 and sentenced to imprisonment for ten months. The "mill" has been permanently closed, its charter having been revoked.

PHILA.

Reviews and Book Notices.

ARTICLE XII.—THE PHYSIOLOGY OF WOMAN; embracing Girlhood, Maternity and Mature Age, with Essays on "Co-education of the Sexes in Medicine," "The Physiological Basis of Education," "Temperance from a Physician's Point of View," and "A Plea for Moderation." By Sarah Hackett Stevenson, M.D., Adjunct Professor of Obstetrics, and late Professor of Physiology in the Woman's Medical College of Chicago. Cushing, Thomas & Co., Chicago; 1880.

This book conveys some information which is sadly needed. In the introduction the author disclaims any intention of having endeavored to write a "*medical book.*" The volume contains no formulas. It is a book of *advice and instruction* to women, couched in the plainest terms and clearest language. No wife or mother, who will read the book carefully and thoughtfully can fail to understand every sentence in it. The information conveyed is also of the most *practical* kind. And besides that, it is of a kind which is needed. The average woman goes through the world in total ignorance of some of the most important facts pertaining to her condition as a wife and mother. Dr. Stevenson has succeeded admirably in selecting the topics which are perhaps of the greatest importance to women in every-day life, and has therefore written a book which is *useful.*

On the 107th page the statement is made that "there are no cases on record of death from *chloroform during labor.*" This assertion needs to be modified somewhat. That there is greater immunity from danger in administering chloroform during labor than in non-parturient cases, the profession will pretty generally admit, but the fact that there are on record authentic reports of

death from the inhalation of chloroform during child-birth, should be sufficient to make every physician careful in its use.*

On the 108th page this sentence occurs: "I consider the moderate use of chloroform *perfectly free from danger* in the first and second stages of labor." Were this book intended for the use of practitioners, this statement would be received with due allowance; but the fact that persons, inexperienced in the use of chloroform, will read this book, carries with it an element of danger, in that it does not lay sufficient emphasis upon the fact that the administration of chloroform is not free from danger *under any circumstances*. With this exception the advice given for the care of the parturient woman and new-born child is excellent.

The author touches upon several points not treated by medical writers generally. The question, "Who shall tell the children of their origin?" is answered in a very satisfactory way. The four essays mentioned in the title of this work are able and well written. Taken all in all, this volume is one which deserves a careful reading by every mother in the land. The typography of this work is of an inferior character. The binding is very imperfectly and cheaply done. B. W. G.

ARTICLE XIII.—CONSUMPTION; AND HOW TO PREVENT IT. By Thos. J. Mays, M.D., Member Pennsylvania Medical Society, Author of "On the Therapeutic Forces," etc. New York: G. P. Putnam's Sons.

In the introduction to this book the author portrays most vividly the wide-spread and terrible fatality of consumption. The number of deaths from this disease in the United States, during the year 1870, was 69,896. Here is another startling statement: "The whole of Maine and New Hampshire, the most of Vermont, Massachusetts, and Connecticut, and all of Northern New York, show that *two thousand* (2,000) out of every *ten thousand* (10,000) who die, owe their death to consumption."

Dr. Mays argues that if physicians could only be paid for *preventing disease*, the high mortality of these regions above men-

* See paper by Prof. Wm. T. Lusk, M.D., of New York, on the "Necessity of Caution in the Use of Chloroform during Labor."

tioned, might be lowered. He then, after briefly considering the nature of consumption, proceeds to enumerate the prophylactic agencies that can be brought to bear against this "ghastly enemy of mankind." The influence of foods, air, soils, clothing, light, physical exercises, digestion, disease, infant diet, cod liver oil and other fats, as factors in the causation or prevention of consumption, is affirmed, by the author to be very great.

On page eighty-seven the relation of alcohol to disease is considered. It is called "a double-edged instrument," powerful for good or evil. But there is no doubt that the author states the opinion of the very large majority of medical men when he advises the moderate and guarded use of alcohol in consumption.

The book is written with a spirit of candor and consistency which ought to give it a reading by a great many physicians.

The hygienist has in this book a suggestion which is worthy of consideration. B. W. G.

ARTICLE XIV.—THE ART OF PROLONGING LIFE. By Christopher William Hufeland. Edited by Erasmus Wilson, M.D., Author of "A System of Human Anatomy," etc. From the last London Edition. 12mo., pp. 300. Lindsay & Blakiston, Philadelphia: 1880.

The author, a German philosophic physician, lived a hundred years ago, but his work is very modern on account of his advanced views. The philosophy of the subject is deep, evident, simple and clear; worthy of recent naturalists, as these quotations show:

"I can at any rate assert that physical and moral health are as nearly related as the body and the soul.

"The business of thinking itself, as carried on in this mortal machine, is organic."

It is obvious that medicine had not yet reached its present scientific stand-point, since the author says that "Many diseases may be the means of prolonging life," and "The application of medicine is nothing else than exciting an artificial disease, in order to expel one that is natural."

The editor has ably amended some similar faults, and added very interesting notes, which might be more numerous.

A feature of this book is that it was written for the public as well as for the profession, and is very interesting to both. Every scientific man should have a copy of it on his shelf.

The first part is a sketch of the history of medicine and hygiene, and of comparative life, with valuable statistics. The second part treats of the (well-known) means which shorten life, and the third and last, of the means which prolong life.

H. D. V.

ARTICLE XV.—HEALTH AND HOW TO PROMOTE IT. By Richard McSherry, M.D., Professor of Practice of Medicine, University of Maryland; President of Baltimore Academy of Medicine, etc. D. Appleton & Co., 1879. New York.

Hygiene, both public and private, is a subject of ever increasing importance. When it is better appreciated and understood, therapeutic measures can be more effectively carried out, for then the medical profession will have, to a greater or less extent, the co-operation of the laity. Dr. McSherry has done a good work. He has not attempted to write a book for professional men alone.

The general public will read it with interest for two reasons: First, it contains a vast deal of information in which the reading public is deeply concerned. Second, it is written in a style which is free from technicalities, and which pleases while it instructs. Part II is especially entertaining, and at the same time eminently practical. We commend the book to those who are interested in preventive medicine. B. W. G.

ARTICLE XVI.—CLINICAL LECTURES ON DISEASES PECULIAR TO WOMEN. By Lombe Atthill, M.D., Master of the Rotunda Hospital, Dublin, etc., etc. Fifth edition. Illustrated. Philadelphia: Lindsay & Blakiston; 1879.

Like most other books, this volume has its faults and its excellencies. The style is clear and perspicuous. There is no ambiguity about it. Dr. Atthill has the enviable faculty of saying what he wants to say, without any circumlocution. But the manner is perhaps, better than the matter. There is nothing new in this book. In fact there are some things advocated and recom-

mended which are not abreast of the age. Fergusson's speculum is recommended for "*general use.*" It is certain that there are several patterns of bi-valve specula infinitely to be preferred to Fergusson's for "*general use.*" Again Dr. Atthill says "some practitioners have a great dread of applying caustics to the interior of the uterus, *a fear which is totally groundless.*"

This is plainly unsound and unsafe doctrine. In well selected cases this practice may be followed, but that there is need of caution in the employment of nitric acid and similar agents, is admitted by the very large majority of practitioners in this country. The author's teachings in these lectures are calculated to give a feeling of unconcern and almost recklessness in making topical applications to the endometrium.

Want of space prevents a detailed notice of all these lectures. Taken as a whole, the book is a good one to read. It is written by a man of large experience in his profession. B. W. G.

BOOKS AND PAMPHLETS RECEIVED DURING DEC., 1880.

A Treatise on Fractures and Dislocations. By F. H. Hamilton, M.D., LL.D. H. C. Lea's Son & Co., Philadelphia; 1880.

A Treatise on Diphtheria. By A. Jacobi, M.D. Wm. Wood & Co., N. Y.; 1880.

A Practical Treatise on Surgical Diagnosis. By A. L. Ranney, M. D. Wm. Wood & Co., New York; 1880.

The Compend of Anatomy. By J. B. Roberts, M.D. Philadelphia; 1881.

Ophthalmic and Otic Memoranda. By D. B. St. John Roosa, M.D., and Edw. T. Ely, M.D. New York: Wm. Wood & Co.; 1880.

Cutaneous and Venereal Memoranda. By H. G. Pifford, M.D., and Geo. H. Fox, M.D. New York: Wm. Wood & Co.; 1880.

Diet for the Sick. By Jno. Holland, M.D.
An excellent little treatise. Containing much valuable information not generally known.

Transactions American Otological Society, 13th Annual Session. Vol. 2, part 4.

The "Abdominal Method" of Singing and Breathing as a Cause of "Female Weakness." By Clifton E. Wing, M. D., Boston.

Pathology and Treatment of Epulis. By N. Senn, M.D., Milwaukee.

Higher Education of Medical Men and its Influence on the Profession and Public. By F. D. Lente, A.M., M.D.

On the Mangement of Infantile Eczema. By L. D. Bulkley, M.D.

Causation of Idiocy. I. N. Kerlin, M.D.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States, for the year 1880.

Pneumo-Dynamics. By G. W. Garland, M.D.

Acts of the Legislature of Louisiana in Regard to Quarantine. By J. Jones, M.D.

Atlas of Histology. By E. Klein, M.D., and H. E. Noble Smith, M.D. Part XI. Philadelphia; 1880. J. B. Lippincott & Co.

THE USE OF THE ACTUAL CAUTERY IN ULCERATION OF THE CORNEA. By Dr. Fuchs, (Vienna.)—The application of the actual cautery in cases of ulceration of the cornea was, so far as Dr. Fuchs knew, just adopted by Martinache, of San Francisco, and Gayet, of Lyons. At the meeting of the German Ophthalmological Society, in 1870, Prof. Sattler mentioned the success which had attended it; and Dr. Fuchs had since employed it in appropriate cases in Prof. Arlt's clinic, with encouraging results. The instrument used by him consisted of a ball of the size of a large pea, with an arm like that used by dentists for the destruction of the dental pulp. It was easily heated red in any good gas flame, and was best applied when the iron was beginning to become black. He had used it in abscesses of the cornea and in ulcus rodens. The abscesses were partly traumatic and partly spontaneous; some were the result of smallpox. The application was not followed by any serious reaction. He regarded the action of the cautery as that of a powerful caustic, destroying the suppurating parts and the infectious germs contained in them. Its great advantage consisted in its strict limitation to the affected part. Dr. Fuchs believed Paquelin's cautery, or the galvanocaustic apparatus, liable to become too hot, while the point of the latter was too large for application to the cornea.—*Extract from the British Med. Journal's Report of the Forty-eighth Annual Meeting of the British Medical Association.*

Editorial.

The American Medical College Association—What it Is, and What It Should Be.

In two preceding numbers of the Journal and Examiner, such facts have been adduced as show most conclusively that the suggestions put forth in the New York *Medical Record*, to the effect that the reason why some of the medical colleges in the "great Eastern cities" have not joined the American Medical College Association, and others have withdrawn from it, is because the Association is constituted chiefly of the "smaller colleges scattered throughout the West and South," and therefore could not adopt any important reforms without a fatal loss of membership, is entirely without foundation. On the contrary, the facts show that, in regard to every important reform in the system of medical education, the medical colleges "scattered throughout the West and South" have been ready and anxious to adopt all these reforms ever since the College Conventions of 1867 and 1870.

The facts also show, that the members of the present College Association in the West and South have advanced their lecture fees—have lengthened their College terms—have exacted the three years of medical study—have completely suppressed the practice that had existed in a few schools of giving two graduating courses of college instruction in each year; in a word, they have promptly complied with the Articles of Confederation adopted by the Association on the completion of its organization; and at the last meeting they took a most important step in advance, by so amending the Articles of Confederation that, after 1882–3, attendance upon *three* annual courses of college instruc-

tion should be required as a condition for final examination for the degree of M. D. Not one of the colleges in the great cities of Philadelphia, New York or Boston, have even proposed a measure of reform or advancement in a meeting of the Association since the completion of its organization in 1877; and, singularly enough, the only opposition made to the exaction of attendance on *three* annual courses of college instruction before graduation, by the Association, was inspired by the representatives of the only large medical school located in one of the great Eastern cities, that remained a member of the Association at the time the action was taken. With such a record of historical facts relating to the progress of events during the last fifteen years, the attempt to explain the conduct of the medical colleges in the "great Eastern cities" towards the American Medical College Association, on the pretense that such Association "can do them no good" on account of its inability to adopt any "important measure of reform without a fatal loss of membership," is something more than ludicrous. We have made the foregoing statements in defense of the College Association and the so-called "smaller colleges scattered throughout the West and South" that make up its present membership, solely in the interests of truth and justice. The Association is neither a child of our creation nor a special pet of our nursing. We joined it because its avowed object was to advance the cause of medical education; and we have cordially sustained it because, thus far, it has steadily advanced in the direction of its avowed purpose, and not because we supposed it would do us or the school we represent any special good. If representatives of all the "larger schools in the great Eastern cities" had pursued the same course, thereby placing the medical colleges in all the larger cities of the country, East and West, North and South, in concert with each other, every important measure of reform or improvement in the system of medical education could have been carried into practical operation in less than five years, without the loss of any College members except such as are so located that they never should have been created. Inasmuch, however, as the large colleges in the great commercial centers of the Eastern part of the country have refused such co-operation, and thereby left the

membership of the Association almost entirely in the West and South, let their friends and apologists hold them to their proper responsibility, and not make themselves ridiculous by attempting to shirk it upon others. That the refusal of the Eastern colleges to co-operate with, and share in, the direction and work of the Association is discouraging its friends and rendering its future progress uncertain, is apparent to all who bestow a thought upon the subject. That the withdrawal from membership of the New York and Philadelphia schools already mentioned will be followed by a withdrawal also of some schools in the West, we have no reason to doubt. Indeed, we are informed that the oldest medical college in this city, while enjoying the attendance of a class numbering four or five hundred, has already followed its Eastern examplers by notifying the Secretary of the Association of its withdrawal from membership. If the same course should be pursued by a few other schools in the West, it would certainly render the present organization of the Association powerless so far as the enforcement of just requirements are concerned, and yet an active and persistent maintenance of its organization and consistent advocacy of right measures might do much good in aiding to create and sustain a proper public sentiment, both in and out of the profession. In our estimation there is, and has been from the beginning, a radical defect in the organization of the Association.

As was intimated in our first editorial, in the October number, the Articles of Confederation establish a league or combination more for the purpose of correcting certain abuses than for the inaugurating of a reasonable standard of medical college education. These Articles, consequently, embody stringent rules against the issuing of scholarships and the various modes of pecuniary underbidding; against two graduating terms in one year; and for not less than three years of study, two annual courses of college instruction, and an examination in the seven principal branches of medical study.

But they give no definition of what should constitute a medical college, capable of imparting an adequate and proper medical education; neither do they indicate any standard of preliminary or general education that the student should comply with before

commencing the study of medicine. These omissions of what should constitute the chief foundation of such an Association deprive it of all influence over the formation of new colleges, and of all power to maintain any standard of equality among its own members. Any six or eight doctors can club together and organize a college in a country village or at a road crossing, and though there may be neither a hospital or dispensary containing materials for clinical instruction, nor the slightest provision for practical instruction in chemistry, microscopy or physiology, yet if they issue a circular announcing that they observe the proper rules in regard to fees, require *three* years of study, two courses of lectures of not less than twenty weeks each, and an examination on the seven principal branches, they can at once apply for the admission of their institution to membership in the American Medical College Association, and there is nothing in the Constitution of the Association on which there can be founded any opposition to such admission. Experience has already shown that it is just this class of institutions that are most anxious to become members, because such recognition tends strongly to give them a degree of respectability they could not otherwise have. If, instead of standing aloof, the regular medical colleges in the larger cities of the East would directly unite with those similarly located in the chief cities of the West and South, in adopting such a standard of what should constitute the essentials of a medical college as is outlined in the following quotation from the report of a committee, made at the last meeting of the College Association, they would at once place our system of medical college education on a respectable basis, and would maintain a controlling influence over the character of all new college organizations. The part of the report to which we allude reads as follows:

"In considering what constitutes a proper standard for a college, we must determine: First, What constitutes a proper or adequate medical education? Second, What is the minimum length of time required for a fair acquisition of such an education? Third, What part of such time should be spent in direct attendance on a medical college? and, Fourth, What are the appliances, means of illustration, and facilities for imparting

practical knowledge, that are necessary to constitute a college capable of performing all the functions required of such an institution.

"The first of these questions may be answered by saying that an adequate medical education is such as gives to the student a fair practical knowledge of all the branches of medical science, and a mental discipline sufficient for the proper use of such knowledge in the practice of the medical art. We use the words 'practical knowledge' as implying something more than mere verbal knowledge. For instance, a student might study a text-book on human anatomy until he could describe every bone in the skeleton, state the origin and insertion of every muscle, and give the distribution of the blood-vessels and nerves, and thereby sustain a fair verbal examination in that department. Yet, if he had never either dissected a subject himself, or witnessed the actual demonstration of each part by a competent teacher, he would be entirely devoid of that *practical* knowledge necessary to guide him in the operations of surgery. The same is true of most of the branches of medical science. Therefore, a practical knowledge of these various branches necessitates demonstrative teaching and personal manipulation, which can be provided in an adequate degree in medical colleges only. The amount of medical knowledge requiring for its proper acquisition this kind of teaching, makes it necessary that at least one-half of the whole time allotted as the period of medical pupilage should be spent in the medical college.

"As there are none at the present time who seriously claim that less than *three* full years should be devoted to diligent study of medicine, before graduation or commencement of practice, we may answer the second and third questions by stating that the minimum length of time required for gaining an adequate knowledge of medicine should be not less than three years; and that at least one-half of each of these years should be spent in a proper medical college. And this makes it necessary that the medical colleges, to be capable of performing their functions properly, should extend their annual term of active and obligatory instruction to six months of each year. It is obvious, also, that in answering the fourth question, we must insist that the

very objects for which medical colleges are needed, make it necessary that each one should not only provide a full curriculum of studies, a full corps of teachers, and an annual term of six months' instruction, but also a sufficient supply of anatomical material for demonstrations and practical dissections; a chemical apparatus and laboratory for practical or analytical chemical work; a histological and physiological laboratory for practical and microscopic work; a museum containing a collection of specimens of normal and pathological anatomy sufficient for illustrating the departments of pathology, practical medicine and surgery; and access for the students to a hospital containing a daily average of not less than thirty patients actually in the wards for treatment and accessible for clinical instruction. A college which is so organized, or so located, that it does not or cannot provide for the daily use of its students all the resources here named, both for didactic and practical instruction, is not capable of performing all the functions that should be performed by every such institution that receives the patronage of the profession and the public. So long as the medical college diploma is recognized as a sufficient license to practice, every college asking for recognition should be required, in addition to possessing the foregoing means for adequate instruction in all departments, to exact proper evidence from every student that he possesses at least a good English education before allowing him to become a matriculate of the college; and after matriculation, he should be required to attend *three* regular annual terms of medical college instruction of not less than six months each, and the last of which should be in the institution granting him a diploma."

The adoption of such a standard as here indicated, by which the objects to be accomplished by a medical college and the means necessary for accomplishing them, should be clearly defined and adopted by the colleges in all parts of the country so located and organized as to be capable of doing so, would be promptly and permanently sustained by every important medical society organization; by the State Board of Examiners; and, so far as necessary, by State legislation. Will the colleges in the "great Eastern cities" make the necessary move in the matter, or will they

continue to play the "dog in the manger," each for itself, and continue to make the so-called "smaller colleges scattered throughout the West and South," the *scape goats* for the sins that are pre-eminently their own? The responsibility is fairly upon *them*, and nothing can remove it but an open, manly co-operation on their part with such colleges in other parts of the country as have the necessary means for instruction, in adopting a proper standard of college organization, and maintaining it. D.

QUARANTINE AND PUBLIC HEALTH. — As our readers are aware, two medical assemblies occurred in New Orleans in the early part of December, 1880.

One was the regular annual meeting of the American Public Health Association, and the other a Special Quarantine Convention. The former appears to have been well attended, and many papers and reports on important topics relating to public health and the propagation of disease, were read and discussed. The National Board of Health received a due share of attention and approval. On the closing day of the session an Advisory Council of the Board was appointed, consisting of one representative from each State. The representatives in this Advisory Council for the Northwestern States are: Dr. J. H. Rauch, of Illinois; Dr. J. F. Hibberd, of Indiana; Dr. W. S. Robertson, of Iowa; Dr. H. B. Baker, of Michigan; Dr. J. T. Reeve, of Wisconsin, and Dr. C. M. Hewett, of Minnesota.

The Quarantine Convention, which was also attended by many of the delegates to the Public Health Association, appears to have done little else than to discuss the question whether the quarantine regulations of the Mississippi Valley, as well as the seaports, should be under the supreme control of the National Board of Health, or should remain under the immediate control of the local boards of each State.

It is evident that the members of the Convention were pretty evenly divided in regard to this important subject, and its consideration ended in no decision in favor of either party. As a

compromise, the following resolutions, offered by Hon. William R. Moore, of Memphis, were adopted, and the Convention adjourned. The resolutions are as follows:

Resolved, That the chair appoint two committees, to consist of seven members each, one committee to represent the Atlantic and Gulf States here represented, and one to represent the States of the Ohio and Mississippi Valleys, each committee to prepare a schedule of rules and regulations concerning those matters of quarantine sanitation which are common to the States of each region respectively, and which schedules shall be submitted to each of such States for ratification and adoption as a basis of action for the protection of the public health; no state to have more than one representative on either of said committees.

Resolved, That it is the duty of the general government to defray the expenses of all quarantine administration of this character which extends beyond the boundaries of a single State, and said committee are hereby authorized and instructed to take the necessary steps to secure adequate appropriations by Congress for this purpose; such appropriations to be disbursed and expended in accordance with the usual Treasury regulations concerning disbursements and expenditures.

Resolved, That the chair be authorized to announce the members of the committee at any time within the next ten days.

WE take pleasure in announcing to our readers that this journal of medicine enters upon a new year with better prospects than ever before. The performance of the promises made in the past is the best guarantee of the excellence of the work which is contemplated for the future. We shall, as heretofore, fill these pages with the original writings of the best men of the profession, at home and abroad, and shall continue to receive correspondence from our esteemed contributors, Drs. H. Osgood, of Boston; C. L. Dana, of New York; and A. Van Harlingen, of Philadelphia, to whom we are under obligations for their excellent letters during the past year. Our foreign correspondence will be conducted by medical men of this city who are abroad—our esteemed correspondent, Dr. Wm. Belfield now acceptably filling this position.

The department of original lectures will receive as much attention as heretofore, and we propose to publish with each year, an increasingly large number of these from the lips of the representative teachers of medicine throughout the country. In brief, we desire to announce that neither time nor expense will be spared to keep THE CHICAGO MEDICAL JOURNAL AND EXAMINER in the front rank of the medical periodicals of the United States.

Selections.

THE HUMAN FACE; ITS MODIFICATIONS IN HEALTH AND DISEASE, AND ITS VALUE AS A GUIDE IN DIAGNOSIS. By AMBROSE L. RANNEY, M.D., Adjunct Professor of Anatomy in the Medical Department of the University of the City of New York.

The extent to which the anatomy of the head, as studied from the stand-point of physiognomy, may suggest points of practical value to the physician or surgeon, has not, in my opinion, received sufficient consideration in the popular text-books of the day. From the *British and Foreign Medical Review* of 1841 I quote the following sentence: "Medical physiognomy is, in many instances, a source of diagnosis which seldom fails the practitioner who is himself well versed in it; and we believe that much of the exquisite tact in discrimination of disease, which distinguishes some practitioners and which others can never attain, depends upon the vivid perception of an eye and ear habitually familiar with the lineaments, the tone, and the gestures of disease." Among the earlier authors, who were ignorant of many of the present methods of determining the condition, size, and position of organs, since the art of auscultation and percussion is a growth of later date, the study of the human countenance formed a very important part of the preparatory drill. The followers of Hippocrates and Galen were rendered perfect in their perceptive faculties. The former gave to us, in his masterly work, descriptions of the symptoms of disease which are still considered classic, while the latter, in his essays on the "Temperaments,"* is equally careful to note the most trivial alteration either of the face or of the posture.

* Kuhn's edition.

There seems to be a growing tendency of late to regard the rational symptoms of disease as subordinate to the results of a physical examination, and as of but little value in themselves, except as confirmatory evidence. Authors frequently render the description of the symptoms of disease so terse and indefinite, that but few of the readers of the later medical or surgical works could precisely picture to themselves the *appearance* of a sufferer from any of the maladies, with the pathology and physical symptoms of which they may be thoroughly familiar. It is not infrequently the experience of the most erudite of the profession to be amazed at the gift, which is possessed by some less scholarly brother, of making a diagnosis, which seldom errs, without the aid of the thermometer or the stethoscope; and many an old nurse, long accustomed to spend weary nights in watching the sick, can often render a prognosis which seems little short of inspiration when her utter ignorance of all medical knowledge is considered.

Despite the fact that some of our best authors have denounced the attempts of De Salle, Jadelot, and Seibert to establish certain facial lines and wrinkles as of positive value in diagnosis, and have pronounced all such statements as a mere fantasy, still no one of large experience can deny that the face may at times afford most positive and valuable information.

In 1806, Lavater* published his work upon this subject, in which he discusses at great length the diagnostic value of general physiognomy. Subsequently, Sir Charles Bell wrote upon the subject from a purely anatomical point of view, and, in 1824, published his "Essays upon Expression." Baumgaertner† added his contribution to the subject in 1839, and Laycock,‡ in 1862, published his course of lectures, with illustrations, which were designed to show the various types of diathesis and their bearing upon the general development. Corfe, in 1867, published a series of contributions in the *Medical Times and Gazette*, in which the subject was studied from a clinical point

* "L'Art de connaître les Hommes par Physiognomie." Paris, 1806–'7.

† "Atlas," 1839.

‡ "Med. Times and Gaz.," 1862, vol. i.

of view, and in which not only the entire field of facial expression, but also that of general physiognomy, was pointed out to the student, so far as the cases under consideration illustrated any points of special interest.

Darwin's great work upon the expression of the emotions in animals and the contributions of Connelly * upon the typical shades of expression peculiar to the insane may well be read by those who question the utility of this much-neglected department of science. The careful study of the expressions of the face and the modifications which age produces in it, is at least very advantageous in furnishing a normal standard by which deviations in disease may be studied. I quote from the most excellent treatise of Blandin † the following sentence: "Those who neglect or seek to ridicule this mode of investigation prove only one thing, that they study pathology without a proper knowledge of anatomy and physiology, upon which the former is founded. The morbid expressions of the face are an extremely useful and often the only guide of the medical practitioner in the case of a very young child, that can tell nothing in regard to its sufferings."

It is with a view to systematize and arrange the collected investigations of the authors previously named, and to bring within the compass of a single article such practical information as the anatomy of the face may afford the practitioner, that I am led to draw professional attention to this subject once more.

The physiognomy of the sick presents innumerable shades of expression. It may assume the various conditions expressive of sadness, dejection, attentiveness, indifference, uneasiness, or terror; it may, at times, be smiling; occasionally menacing or wandering; and may sometimes show a series of changes in rapid succession.

These various conditions of the countenance may not only be the direct result of the influence of the ever-varying passions upon the muscles of the face, as is the case in health, but they may also be classed as morbid phenomena, each of which possesses some special significance. Chomel lays great stress upon

* "Med. Times and Gaz.," 1862.

† "Anatomie Topographique."

these variations of countenance, and endeavors to point out the special diagnostic value of each.

FACIAL LINES AND WRINKLES.—The theories of De Salle, Jadelot, and Seibert* as to the diagnostic value of facial lines and wrinkles have their share of support from time to time; while they have also been considered by some authors as speculative and destitute of any value. The existence of these marks may be attributable to one of two conditions, viz., a disappearance of the fat from the subcutaneous tissues of the face, or the

FIG. 1.—The Transverse Rugæ.

abnormal contraction of certain facial muscles, dependent upon some apparent irritation of the motor nerves supplying the affected muscles. It is important, in using these lines and wrinkles as guides in diagnosis, that the discrimination be made between those lines which are natural to the face of the sufferer and those which are developed as a result of the disease. For the reason that the face of the adult is always more or less marked by lines,† it must be evident that these lines are a more

* Williams, "Principles of Medicine."
† Blandin, op. cit.

reliable guide in the infant than in later life, if their diagnostic value remains unquestioned. Without entering into a discussion as to the merits of the question, I give the theories advanced for whatever interest and value they may possess to the reader. The wrinkles of the face may be classified into six groups as follows:

(1.) *The Transverse Rugæ.*—These are situated upon the forehead, and are formed by the action of the occipito-frontalis muscle. They are thought to be expressive of an extreme amount of pain, arising from causes outside of the cavities of the body.

FIG. 2.—The Oculo-frontal Rugæ.

(2.) *The Oculo-frontal Rugæ.*—These extend vertically from the forehead to the root of the nose, and are formed by the corrugator supercillii muscles. They are thought to express distress, anxiety, anguish, and *excessive pain from some internal cause.* It is said that they furthermore indicate an imperfect or false crisis; and that, in attacks of acute diseases, an impending

efflorescence and sometimes a fatal termination may be indicated by their occurrence. In those types of headache where the pain is very excessive, these rugæ may exist simultaneously with the ones previously described. It is stated that when the former rugæ meet the latter abruptly, during the course of an acute disease, some serious lesion of the brain, or its coverings, is developing.

FIG. 3.—The Line of Jadelot.

(3.) *The Linea Oculo-zygomatica.*—This line (the line of Jadelot) extends from the inner angle of the eye downward and outward, passing across the face below the malar bone. It is said to indicate, in children, a *cerebral or nervous affection;** and, in adult life, some disease of the genital organs, masturbation, or venereal excess.

* Vogel, "On Diseases of Children." New York: D. Appleton & Co.

(4.) *The Linea Nasalis* (Line of De Salle.)—This line extends from the upper border of the ala nasi downward, in a direction more or less curved, to the outer edge of the orbicularis muscle. This line is said to be strongly marked in phthisis and in atrophy. Its upper half (the linea nasalis proper) is thought to be a reliable indication of *intestinal disease*, if extensively developed and prominent; the lower half (the linea buccalis) is supposed to indicate the existence of some *disease affecting the stomach.* It is claimed by Peiper that, when this line appears conjointly with the line of Jadelot, it may be regarded as a positive indication of worms in children, if a peculiar fixed condition of the eye exists and a pallor of the face is present.

FIG. 4.—The Line of De Salle.

(5.) *The Linea Labialis.*—This line extends downward from the angle of the mouth till it becomes lost in the lower portion of the face. It is usually developed in connection with those *diseases which render breathing laborious* or *painful*, and is more common in children than in the adult as a sign of diagnostic value.

(6.) *The Linea Collateralis Nasi.*—This line extends from the nose downward to the chin, in a semicirclar direction. It lies outside of the linea buccalis, the linea nasalis, and the linea

Fig 5.—The Linea Collateralis Nasi.

labialis. It is thought to be a reliable guide to diseases of the *thoracic* and *abdominal viscera.**

Color of the Face.—The color of the face is subject to variations which to the eye of the medical adviser afford unquestioned aid in diagnosis. *Flushing* of the face, as evidenced by a diffused redness which is of a transient character, is very common in women suffering from irregularity of the menstrual periods and during the menopause. In plethora, especially after exertion or excitement, an unnatural redness of the face may

* Corfe, "Medical Times and Gazette," 1867.

occur, associated with symptoms indicative of cerebral hyperæmia. Pressure of tumors, either of the neck, or of the thorax, upon the sympathetic nerve may create an abnormal dilatation of the capillaries, thus resulting in a redness of the skin, with an increase of the temperature of the affected region; while section of the sympathetic nerve, although a rare form of accident, would result in a like condition.* *Red patches* occur on the cheek during an attack of croupous pneumonia. In wasting affections of a chronic character, especially of the lungs, such as phthisis, cancer, etc., a circumscribed redness over the malar bones, known as the "hectic flush," is usually present. It may occasionally affect only one cheek,† where only one lung is diseased. *Pallor* of the face is the rule during convalescence from any severe disease, and in patients long deprived of sunlight.‡ A *waxy pallor* exists in chronic Bright's disease, which renders the skin almost transparent. In the chill of fevers and malarial attacks, a *dusky paleness* is usually perceived; while in cases of hæmorrhage, where the loss of blood has been sufficient to produce constitutional effects, the pallor of the face assumes a peculiar *leaden color*.§ A *greenish tint* is present in profound attacks of anæmia and during chlorosis, ‖ giving to the face an appearance similar to that of imperfectly bleached wax.

Malaria and cancer are often manifested by a *light straw color* of the face, although it may occasionally result in the deep yellow of jaundice.¶ In the early stages of jaundice, the sclerotic coat of the eye and the corners of the mouth first show the *yellow color*, although the discoloration soon tends to become diffused over the entire face. A *blue tinge* exists in those cases where the venous return to the right heart is obstructed, or where, from any cause, the oxygenation of the blood is imperfectly performed. It occurs therefore in cynosis, asphyxia, the fevers, certain diseases of the pulmonary organs which interfere with the

* M. Foster.
† Stillé.
‡ Williams, op. cit.
§ Sir Charles Bell, "Treatise on Surgery."
‖ Niemeyer, "Text-Book of Practical Medicine." New York: D. Appleton & Co.
¶ Reynolds. "System of Medicine."

circulation, and in diseases of the heart which render its action weak or imperfect. In cases of poisoning from the nitrate of silver, the skin assumes a still deeper blue tint than in those cases above mentioned, and the staining is permanent. In Addison's disease of the supra-renal capsules a *dark-brown color* of the skin results, which may be either uniform or in isolated spots, and which may, in severe cases, almost rival the pigmentation of the negro. The redness of erysipelas is usually accompanied by an œdema which renders the face tense and shining, and which often causes a markedly altered expression of the countenance.

The face is the seat of many of the eruptions, some of which are confined almost exclusively to it, while others are usually found in that region before they appear elsewhere. It would exceed the limits of this article to enter into the description of the characters which stamp each of the various eruptions, since they can be easily learned by reference to any of the special treatises.

Corfe suggests as a guide to the student in physiognomy the following table, which designates the prevailing changes in the complexion of the face in the course of the more common disorders. While it is not possible to construct any table which shall give all the information desired upon so important a subject, still this one may prove of some value as a means of aiding the memory:

In cerebral disease.....	the countenance	is	lethargic.
In emphysema	"	"	livid.
In pulmonary œdema.....	"	"	dusky and distressed.
In pneumonia	"	"	dusky and flushed.
In pleurisy	"	"	pale and anxious.
In phthisis.....	"	"	pale and thin.
In malignant disease.....	"	"	sallow and thin.
In icterus.....	"	"	yellow and thin.
In renal disease.....	"	"	thin, puffy, and anæmic.
In peritonitis.....	"	"	anxious and dragged.
In uterine disease.....	"	"	sallow and haggard.

Marshall Hall* thus describes a countenance which he considers typical of the acute form of dyspepsia: "This affection is

* "On Diagnosis" London, 1817.

accompanied by some paleness or sallowness, and a dark hue about the eye. The lips are slightly pale and livid. The cutaneous vessels exude a little oily perspiration, and the muscles of the face, and especially of the chin and lips, are affected with a degree of tremor, particularly on any hurry or surprise, or on speaking."

THE NOSE.—The nostrils are of some practical interest from a medical point of view. They *dilate* forcibly and rapidly in difficult respiration, when produced by disease;* and *itching* of the nostril is regarded by many authors as a valuable diagnostic sign of intestinal worms.† The nose seldom points directly forward, being, as a rule, slightly inclined toward the right side. This fact is explained by Béclard as the result of the habit of wiping the nose with the right hand, since, in left-handed people, the opposite deflection exists. The nose of a face perfect in its outline should be one-third of the length of the distance from the root of the hair to the chin; but, in certain races, the variation from this rule affords a special physiognomy. The integument which covers the nose is very firmly attached to the muscles underneath it by a cellulo-fatty layer. Blandin‡ lays great stress upon this fact as explaining the infrequency of œdema of this region, and as an effort on the part of Nature to preserve the uniformity of contour of the nose, which would be seriously impaired by any local swelling of the face, were the skin over the nose loosely attached. The nose is extremely vascular; hence the custom of surgeons to replace severed portions of the organ, even if completely detached, with a hope of obtaining union. Among the ancients, amputation of the nose was practiced upon the criminal classes, and the operation of rhinoplasty was first suggested as a means of relief for those so disfigured.

The redness of the nose after an attack of crying indicates a connection between the sympathetic supply of the capillary vessels of the nose and that of the capillaries of the lachrymal apparatus; hence any form of irritation of either of these localities is liable to be accompanied by symptoms referable to

* Sir Charles Bell.
† Peiper.
‡ Op. cit.

the other.* Injury to the nose, resulting in fracture, often leaves a permanent facial deformity, and, even when no evidences of serious injury can be ascertained by external examination, cerebral symptoms are liable to follow, as fracture of the base of the skull may result, from a transmission of the force through the perpendicular plate of the ethmoid bone.† Vascular tumors of the region of the nose are not uncommon, while a prominence of the capillary vessels of the nose is met with in the aged as the result of a defect in the contractile power of their coats.‡

Marked elevation of the nostril is regarded by some authorities§ as an indicator of pain within the cavity of the thorax.

THE EYE.—"It may appear to many a superfluous task to attempt to judge of the character of an individual by a glance at his face, but, whatever may be thought of the possibility of laying down strict rules for such judgment, it is a fact of every-day occurrence that we are, almost without reflection on our part, impressed favorably or unfavorably with the temper and talents of others by the expression of their countenance. The face acquires its expression also from bodily habits and from intellectual or sensual pursuits, so that we may pass from the lofty and expanded forehead, with the small, well-formed mouth of the philosopher, down to the shallow front and protruded muzzle of the negro, whose habits are more bestial than those of the animals he chases for the support of his life."‖

The intimate communications between the fifth, the seventh, and the sympathetic nerves, through the media of the ciliary, optic, and Meckel's ganglia, would lead us to expect that the eye should exhibit, in its altered appearance, the derangement of internal structures. "When a glance of this organ is caught, what a field of mute expression is open to the mind! This silent and instructive index of the whole man may be bright or dull, heavy or clear, half shut or unnaturally open, sunken or protruded, fixed or oscillating, straight or distorted, staring or

---

* Blandin, op. cit.
† Holden, "Human Osteology." London, 1855.
‡ Bérard.
§ Marshall Hall, op. cit.
‖ Corfe, op. cit.

twinkling, fiery or lethargic, anxious or distressed; again, it may be watery or dry, of a pale blue, or its white turned to yellow."*

The pupils may be contracted or widely dilated, insensible to or intolerant of light, oscillating or otherwise, unequal in size, or changed from their natural clearness of outline. The noble arch of the brow speaks its varied language in every face of suffering humanity. It may be overhanging or corrugated, raised or depressed; while the lid of the eye, an important part of this vault, exhibits alternations of puffiness or hollowness, of smoothness or unevenness, of darkness or paleness, of sallowness or brown discoloration, of white or purple. Lines intersect this region, and the varied tints are perpetually giving new color, new feature, new expression, by their shadows. If the frontal muscle acts in connection with the corrugator supercilii, an acute deflection upward is given to the inner part of the eyebrow, very different from the general action of the muscle, and decidedly expressive of debilitating pain, or of discontent, according to the prevailing cast of the rest of the countenance. An irregularity of the pupils of the two eyes indicates, as a rule, pressure upon nerve centers or upon the optic nerve itself.† In adynamic fevers the eyes are heavy and extremely sluggish, and are, as a rule, partially covered by the drooping eyelid; while in certain forms of mania they are seldom motionless.‡ This latter peculiarity is also often noticed in idiocy.

In the so called "Bell's paralysis," due to failure of the facial nerve, the eyelids stand wide open and can not be voluntarily closed, since the orbicularis palpebrarum muscle is paralyzed. This condition may be further recognized, if unilateral, by a smoothness of the affected side, since the antagonistic muscles tend to draw the face toward the side opposite to the one in which the muscular movement is impaired; an inability to place the mouth in the position of whistling, since for this act the two sides of the face must act in unison; loss of control of saliva, which dribbles from the corner of the mouth; and a tendency to

* Corfe, op. cit.

† Ferrier, "The Localization of Cerebral Disease." New York: G. P. Putnam's Sons, 1879.

‡ Connelly, *Med. Times and Gaz.*, 1861-2.

accumulation of food in the cheek, since the buccinator muscle no longer acts.

FIG. 6.—"Bell's Paralysis." (Modified from Corfe.)

When the third pair of nerves are affected upon either side, the upper eyelid can not be voluntarily raised, for the levator palpebræ muscle fails to act; and the eye is caused to diverge outward, since the external rectus muscle, not being supplied by the third pair, and having no counterbalancing muscle, draws the eye from its line of parallelism with its fellow. In photophobia, attempts to open the eye create resistance on the part of the patient, since the entrance of light causes pain; while, as death approaches, or in the state of coma (save in a few exceptions),

the eyes are usually open. In cardiac hypertrophy an unusual brilliancy of the eye is perceived,* since the arterial system is overfilled from the additional power of the heart. A peculiar glistening stare exists during the course of scarlet fever, which is in marked contrast with the liquid, tender and watery eye of measles.† Many diseases of the eye itself tend to greatly alter the normal expression of the face. Prominently among these may be mentioned cataract, glaucoma, cancer, staphyloma, exophthalmus, iritis, conjunctivitis, amaurosis, etc., but the special peculiarities of each need not be here described.

Abnormalities of the pupils may afford the practitioner material aid in diagnosis. The pupils are found to be dilated during attacks of dyspnœa and after excessive muscular exertion,‡ in the latter stages of anæsthesia, and in cases of poisoning from belladonna and other drugs of similar action. A contracted state of the pupils exists during alcoholic excitement, in the early stages of anæsthesia from chloroform, and in poisoning by morphia and other preparations of opium, physostigmin, chloral, and some other drugs. Paralysis of the third cranial nerve creates a dilated condition of the pupil of the same side, since that nerve controls the circular fibers of the iris.

Growths within the deeper portions of the orbit tend to create a displacement of the eye forward, and thus to cause an apparent increase of that organ in size. A similar condition may also result from abscesses or the growth of tumors within the cavity of the antrum. In the so-called Basedow's disease,§ an abnormal prominence of the eyes accompanies a simultaneous enlargement of the thyroid gland. The eyelashes, if abnormal, not only in themselves create deformity, but also, by causing irritation of the conjunctiva, produce an alteration in the normal expression of the eye.

THE CHEEK.—The cheek is capable of a great variety of move-

* Loomis, "Lectures on Diseases of the Respiratory Organs, Heart and Kidneys" New York: William Wood & Co., 1874.

† J. Duggan, quoted by Haviland Hall: "Differential Diagnosis," Philadelphia, 1879.

‡ M. Foster, "Text-Book of Physiology," 3d ed. London: Macmillan & Co., 1879.

§ F. von Niemeyer, "Text-Book of Practical Medicine." Translated by Hackley and Humphrey. New York: D. Appleton & Co., 1869.

ment. During the reception of liquid or solid food into the mouth, it is of the greatest assistance, since by its movements the two acts are greatly facilitated; during mastication, the buccinator muscle helps to force the food between the jaws, which are brought into apposition and rubbed together; and, finally, the cheek can act as an important factor in producing that peculiar type of countenance which is so strongly indicative of the desire of taking nourishment. The respiratory motions of the cheek are manifested in the acts of gaping and blowing, and in the exhibition of intense passion, in which the malar region is markedly in sympathy with a general excitation of the whole respiratory apparatus.

The cheek may become the mirror of the soul. When the feelings are gay, it is drawn outward and upward; but, when the mind is depressed or saddened, it is drawn obliquely downward. If these movements be carefully noted, it will be perceived that the movable point of the cheek is situated in the immediate vicinity of the naso-labial groove;* since the attachments of several of the small fascial muscles at about this point tend to draw the anterior part of the cheek outward from the line of this groove. It may be noticed, as a matter of interest, that when the mental impressions are slight and trivial, no traces of their effect upon the face are left upon the cheek; but, when they are of a serious or prolonged character, deep and permanent grooves are formed, which are of interest to the physiognomist as an indication of the temperament, and to the medical adviser as often of positive value in diagnosis. In the young child, the cheek, which is at nearly the same instant alternately moistened with a tear or decked with a smile, preserves in the healthy state the roundness which marks that happy age; but in the adult, the cheek, on the contrary, presents numerous lines and wrinkles, and this appearance becomes still more apparent as old age approaches.

There are, however, lines in the cheeks of the aged which should not be mistaken for evidences either of the temper-

* Blandin, op. cit.

ament or of disease, since they are produced simply by the approximation of the jaws. Lavater,* in his work upon physiognomy, locates most of the sentiment of the face in the cheek, and draws comparisons between the base and jealous face and that which is generous and noble, as a support to his theory.

The color of the cheek varies much, both as a direct result of the passions and from special diseased conditions, which have been mentioned previously in this article. In fear and envy, the cheek is usually pale and colorless, while in love, embarrassment, or anger it is often uncommonly red. To the physiologist, these changes are a beautiful exhibition of the sympathy which exists between the mind and the circulatory and respiratory systems, which are seldom influenced except simultaneously. The changes in the cheek which affect expression, like the respiratory motions, depend chiefly upon the influence of the facial nerve; and thus it is that children and females, in whom the nervous system is generally more susceptible to impressions, also present, to the greatest degree, more or less transient modifications of the cheek. The cheek suffers a diminution in its fat as age advances, and when the teeth have been lost the approximation of the jaws forces the redundant cheek outward; and its flaccidity, from the loss of fatty tissue, throws it into folds, which are not present in the face of the infant.

The cheek approaches a triangular form in the infant, but it becomes quadrilateral when the teeth are developed; and in the old man, as the teeth are lost, it again returns to the triangular form as in infancy. The fact that the maxillary sinus is very imperfectly developed in the child, and gradually increases as age advances, explains to a great extent why the triangular form tends to become quadrilateral; and the frequency of abnormal protrusions of this region is explained by growths or the accumulation of fluid within this cavity. The changes in the cheek produced by advancing years are also illustrated in its color. In the child, the bright rose tint, which accompanies exertion and frequently the hours of sleep, bespeaks health and general activity; but in adult age this coloring tends to disappear, and in old age

* Op. cit., Hunter's edition.

the cheek often assumes a striated redness, which is due to an abnormal dilatation of the capillary vessels, especially the veins. The vascularity of the cheek renders the occurrence of erectile tumors common in this region; and the elasticity of the tissues affords an anatomical explanation of the little disfigurement which follows the removal of large portions of the cheek, in case surgical interference is demanded from any cause.

THE LIPS.—Certain deformities of the face are common in the region of the lips and mouth. Among these may be mentioned the condition of deficient closure, which is the normal condition of the hare, and to which the term "hare-lip" is applied. This deformity may be associated with that of fissure of the hard palate, and often with imperfect development of the soft palate; and thus not only is the countenance impaired, but the power of sucking, natural to the infant, is destroyed, and the articulation of words is subsequently rendered imperfect. The vascularity of the lips renders the development of erectile tumors of this region not infrequent; while hypertrophy of the tissues forming the lips may occur as one of the types of facial deformity.

The lips of the young child are very much longer in proportion to the face than those of the adult, and their increased length renders the act of sucking easier to the infant than if the teeth were present, since the lips can be made almost to cross each other and thus closely embrace the nipple. When the teeth are formed, the excessive length of the lips diminishes, and the expression of the face is thus greatly altered; while, in the old man, as the teeth are lost, the lips again become very long, which accounts for their projection forward when the mouth is closed, and which gives to those advanced in years the peculiar pouting expression so often seen.* The excessive length of the lips in the aged furthermore acts as a hindrance to mastication, and often renders the articulation of words extremely indistinct.

In sickness, if the angle of the mouth be depressed, pain and languor may be read; and, when the corrugator supercilii muscle

* Bandin, op. cit.

coöperates with the depressor muscles of the mouth, acute suffering is proclaimed.*

Extreme pallor of the lips is observed in excessive hæmorrhage, in purpura, in chlorosis, etc.; deep lividity denotes a defective oxygenation of the blood, and occurs chiefly in diseases of the lungs, heart, and larynx; while pale lividity occurs in cases where the circulation of the surface is languid or imperfect.† In painful affections of the abdominal organs, the upper lip is usually raised and stretched over the gums or teeth, so as to give a diagnostic expression to the countenance, which is considered by some as of great value. In anasarca of the face, the lips, eyes, and cheeks are most affected, since the subcutaneous cellular tissue in these regions admits of distention more readily than in those regions where it is not so loose.

DEFORMITIES OF THE FACE.—Among the extraordinary deformities of the orbital region, may be casually mentioned those rare cases of absence of the eyes, and the union of the two orbits, as reported by Tenon and Bartholine. The eyelids may also be found deficient or united at birth; and occasionally turned in or out, when the skin and the conjunctiva are of unequal length. The last type of deformity is most frequently the result of cicatrization of the tissues of the face, following an injury; while adhesions of the eyelids to the globe of the eye may be either a congenital defect or the result of inflammatory processes. The pupils may be absent at birth, or may be partially incomplete; ‡ while deformities of this aperture may also be acquired as the result of adhesions between the iris and the cornea or the crystalline lens, or as the result of an operation in which portions of the iris are exercised for the relief of glaucoma.

The entire absence of the face at the time of birth has been recorded by Lecart, Curtius, and Béclard; while in numerous instances the median portions of the face have been absent, or the existence of deep central fissures in the face has been detected. Cases are on record where all evidences of the existence of the nostrils are absent, termed "anarina"; those where the mouth has

* Corfe.

† Marshall Hall, op. cit.

‡ Blandin, op. cit.

been found absent, termed "astomia;" and those where a double nose has existed, as recorded by Béclard. In these abnormalities, as in those where the cranium has been partially or totally wanting, an arrest of the process of development at an early stage of fœtal life must have occurred, the date of which in pregnancy may be roughly estimated by the extent and situation of the deformity. In cases of senile atrophy of the forehead, the bones are sometimes completely absorbed, and hernia of the encephalon may thus spontaneously be produced.

Tumors of the face always create a deformity, which is confined to the anatomical region affected; some of which have already been referred to in this article in the treatment of certain of the special features. Many conditions of the face, which may properly be spoken of as deformities, are dependent upon disease. Some of those which affect the eye and its appendages, and others which are due to injury of nerves or to disease of nerve centers, will be described later on, among the special types of physiognomy which are of interest in their bearing upon general diagnosis. Severe types of ulceration, as it occurs in lupus and carcinoma, often create so extensive a destruction of tissue as to give rise to hideous deformities, but they have no special bearing upon the diagnosis of the existing disease.

SPECIAL TYPES OF FACE.—Many of the specific forms of disease have their special physiognomy. As examples of this fact, scrofulous children inherit either a velvety skin, dark-brown complexion, dark hair, dark brilliant eyes, and long lashes, with the lineaments of a face finely drawn and expressive; or a fair complexion, thick and swollen nose, broad chin, teeth irregular and developed late, inflammation of the Meibomian glands, scrofulous ophthalmia, eruptions of the head, nose and lips, and enlarged cervical glands.*

Hippocrates † describes a characteristic expression, which has been called from him the "facies Hippocratica," in which the eyebrows are knitted, the eyes are hollow and sunken, the nose is very sharp, the ears are cold, thin, and contracted, with

* Williams, op. cit.

† "Prognostics" (Adam's translation).

marked shriveling of the lobules; the face is pale and of a greenish, livid, or leaden hue; and the skin about the forehead is tense, dry, and hard. This type of countenance is a most frequent indicator of impending death from chronic disease, or in an acute form of disease which has been unusually prolonged.

The "facies stupida" is distinguished by a dullness of expression, which is its chief characteristic. A peculiarity exists as regards the eyes, which are extremely dull, and resemble those seen in alcoholic stupor. This type of countenance is identical with the so-called "typhoid face," since it is most frequently met with either in connection with typhoid fever or with the typhoid condition associated with some other disease.*

Another type of countenance to which attention is frequently drawn is called the "pinched countenance." It can be produced artificially by exposure to cold, and is characterized by an apparent decrease in the size of the face, with a contracted and drawn expression of the features, and pallor or livid color of the skin. It is said to exist most frequently in the course of acute peritoneal inflammation.

In the long list of diseases which tend to shut off the supply of air to the lungs more or less suddenly, and in those accidents, such as choking, strangulation, smothering, drowning, etc., where the same effect is accomplished, the symptoms of apnœa are manifested in the face by flushing and turgidity, at first, and later on, by a livid and purplish color. The veins of the neck become markedly swollen, and the eyes seem to protrude from their sockets. A loss of consciousness, and possibly convulsions, precedes death.†

The countenance of extreme anæmia is seen in those cases where from sudden or gradual hæmorrhage, the prognosis is rendered alarming. The phenomena which attend this mode of dying are pallor of the face, with a peculiar leaden or clay-like hue, ‡ cold sweats, dimness of vision, dilated pupils, a slow, weak, irregular pulse, and speedy insensibility. With these symptoms

* Finlayson, "Clinical Diagnosis." Philadelphia: H. C. Lea, 1878.
† Watson, "Practice of Physic" (Condie's edition).
‡ Sir Charles Bell, op. cit.

are frequently conjoined nausea, restlessness and tossing of the limbs, transient delirium; a breathing which is irregular, sighing, and, at last, gasping; and convulsions before the scene closes.

FIG. 7.—Face after Hæmorrhage. (Modified from Corfe.)

The expression of the countenance is typically marked in certain of the inflammatory diseases of the eye.* In strumous ophthalmia, the child's brow is knit and contracted, while the ala nasi and the upper lip are drawn upward. Those muscles which tend to exclude the light from the inflamed organ, without shutting out the perception of external objects, are called into action; thus producing a peculiar and distinctive grin. In severe cases, the child will sulk all day in dark corners, or, if compelled to stay in bed, will bury the face in the pillow, since the exclusion of all light tends greatly to diminish the suffering. If brought to the window, the eyes are shaded with the hands or the arms;

* Haynes Walton, "Operative Ophthalmic Surgery." Philadelphia, 1853.

and, if the eye be opened, a profusion of hot, scalding tears will enter the nose and give rise to sneezing, or flow over the face and cause excoriation of the adjoining parts. This special intolerance of light seems to be a chief characteristic of this type of trouble, since it is often greatly out of proportion to the redness which indicates the extent of the inflammation present. In catarrhal ophthalmia, the inflammation seems to be confined to the conjunctiva and the Meibomian follicles. The eyelids are glued together by the lashes, which are bathed in the excessive secretion of the conjunctiva or of the inflamed follicles; and a redness of the surface of the eye, with some pain and uneasiness, is the only other symptom of special diagnostic value.

The deformity of iritis is characterized by a redness of the sclerotic; a change in the color of the iris, and in its general appearance, as compared with the healthy eye; an irregularity in the pupil, produced by adhesion of the iris to the adjacent structures; possibly immobility of the pupil, as the result of such adhesions; and a visible deposit of coagulable lymph. The pupil, in acute iritis, seldom dilates in the dark, on account of the intense congestion which exists;* and it is usually smaller than that of the unaffected eye. Some pain and excessive photophobia are usually also present in attacks of acute iritis. There is something very peculiar in the expression of the countenance of a person suffering from amaurosis, by which alone the physician may almost recognize the disease. Such a patient enters a room with an air of great uncertainty as to movement; the eyes are not directed toward surrounding objects; the eyelids are wide open; and the patient seems gazing into vacancy. This unmeaning stare of the face is due, in great measure, to an absence of that harmony of movement and expression which results largely from the information obtained by the exercise of vision.† This seeming stare at nothing is not observed in patients who are blind in consequence of opacity of the crystalline lens or of its capsule, i. e., in consequence of cataract. They, on the contrary, while they cannot see, still seem to look

* See the experiments of Mosso, quoted by Michael Foster.

† Watson, op. cit.

about them, as if they were conscious that the power of sight remained in the retina, although the perception of objects was shut out from it. Patients, afflicted with cataract, who cannot detect the existence of a gas jet or a candle in a dark room, are not fit subjects for operation, as the existence of trouble behind the lens may safely be surmised; since the periphery of the lens seldom becomes opaque to such an extent as to prevent the perception of light by the retina, even if the outline of objects cannot be perceived.

The countenance of chronic hydrocephalus is perhaps the most typical of any of the conditions to which the attention of the physician or surgeon is directed. In it, the frontal bone is tilted forward, so that the forehead, instead of slanting a little backward, rises perpendicularly, or even juts out at its upper part, and overhangs the brow. The parietal bones bulge, above, toward the sides; the occiput is pushed backward; and the head becomes long, broad and deep, but flattened on the top. This, at least, is the most ordinary result. In some instances, however, the skull rises up in a conical form, like a sugar-loaf. Not unfrequently the whole head is irregularly deformed, the two sides being unsymmetrical. Some of these rarer varieties of form are fixed and connate; others are owing, probably, to the kind of external pressure to which the head has been subjected. While the skull may be rapidly enlarging, the bones of the face grow no faster than usual, perhaps not even so fast; and the disproportion that results gives an odd and peculiar physiognomy to the unhappy subjects of this calamity. They have not the usual round or oval face of childhood. The forehead is broad, and the outline of the features tapers toward the chin. The visage is triangular. The great disproportion in size between the head and the face is diagnostic of the disease, and would serve to distinguish the skull of the hydrocephalic child from that of a giant. In acute cerebral diseases, the countenance is either wild and excited, or lethargic and expressionless.*

Thoracic affections are all accompanied by more or less change in the color of the face; whereas the alteration in the natural

* Sir Charles Bell, op. cit.

hue of the features is so slight in abdominal diseases, that both the intellect and the complexion remain unaltered, up to the final struggle, though the pinched and dragged features express the acute sufferings of the patient. In pneumonia, the countenance is inanimate; the cheek, of a dusky hue, with a tinge of red; the eyelid droops over the globe; the brow is overhanging; the lips are dry, herpetic, and of a faint claret color; the chest is comparatively motionless, but the abdomen exhibits evidences of activity; the skin is hot; and the respiratory acts are usually about double the normal number, while the pulse is markedly accelerated. In cases where the dyspnœa is extreme, the patient, entirely regardless of what is going on about him, seems wholly occupied in respiring; is unable to lie down, and can scarcely speak; and the face becomes expressive of the greatest anxiety, while the expanded nostrils and their incessant movement indicate pulmonary distress.

In emphysema, the face is not only dusky but anæmic; the eyes are wide open, as the patient gazes at you; the dusky redness of the lips bespeaks the lack of proper oxygenation of the blood; the neck is thrown backward, and the mouth is slightly open, while the cheek is puffed out during the expiratory act; the distended nostril and the elevated brow stamp the case as one of dyspnœa; while the coldness of the skin shows that no acute inflammatory condition is present. If we see, in addition to these facial evidences of disease, the deformity of the chest which has been termed the "barrel-shaped" thorax, the shrugged shoulders, and the absence of that expansive movement so well marked in normal respiration, auscultation and percussion can hardly make the diagnosis more positive.

There are certain facial conditions, which so clearly tell, to the student of physiognomy, of the existence of that most prominent sign of many pulmonary and cardiac diseases, dyspnœa, that it may be well to enumerate the alterations from the normal countenance which chiefly indicate this condition. In all cases where dyspnœa is present, the brows will usually be found to be raised; the eyes will be full, staring, and clear; the nostril will be dilated, and often it may be seen to move with each respiratory

act;* the mouth will commonly stand partly open, while its angles will be drawn outward and upward; the upper lip will be elevated, so as to show the margins of the teeth; and the utterance of the patient will be monosyllabic, as the rapidity of breathing renders the utterance of long sentences a matter of extreme

FIG. 8.—Countenance of Emphysema. (Modified from Corfe.)

difficulty. When we add to these symptoms those of imperfect oxygenation of blood, as is met with in all conditions where the free entrance of air is in any way interfered with, we can better understand how the clear eye becomes stupid, as coma approaches, from the carbonic-acid poisoning, and the face cyanotic from the venous tinge of the blood. It thus becomes possible for the stu-

* Lavater, op. cit.; Sir Charles Bell, "Anatomy of Expression."

dent to picture to himself the countenance which must exist in such conditions as acute laryngitis, spasmodic and true croup, thoracic tumors which cause pressure upon the lungs or the trachea, and the various conditions of the lung itself, which impede the entrance of air to the organ, but which are not of inflammatory origin, and which have, for that reason, no distinctive physiognomy.

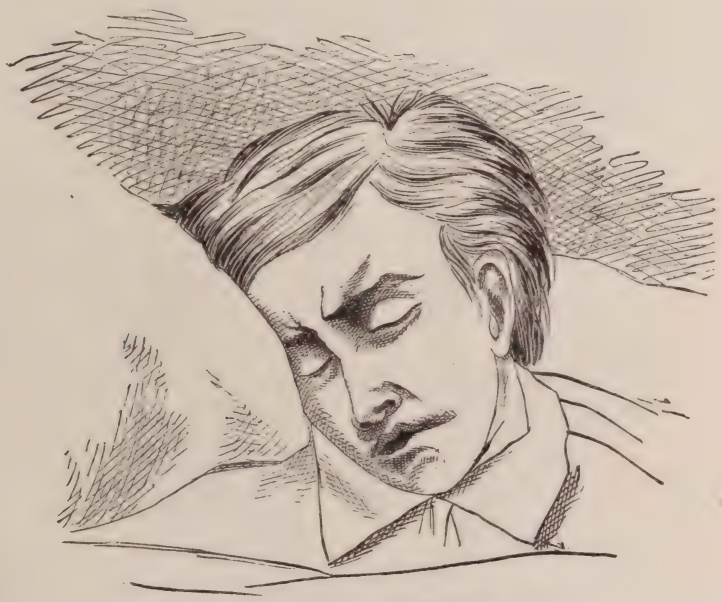


FIG. 9.—Cardiac Dyspnœa. (Modified from Corfe.)

In cases where renal dropsy has stamped its characteristic marks upon the countenance, we may perceive the signs of dyspnœa, due to the accompanying œdema of the lungs, in the corrugated forehead, the raised eyebrow, the dilated and waving nostrils; the corners of the mouth will be found to be drawn downward and outward, expressive of some disease of the abdominal cavity; the eye will be full and anxious, indicative of suffering long continued and borne with patient calmness; the conjunctiva may present that pellucid and bleb-like condition, so often seen in this type of disease, and an œdema of the eyelid

may greatly alter its appearance; finally, the waxy pallor of the complexion and the pasty and bloated cheeks show the profound anæmia of the patient.

Chronic diseases of the abdominal cavity are usually characterized by a languor of the eye and by an absence of that flash of alarm so peculiar to the acute forms of abdominal trouble;* and, if attended with steadily increasing danger to life, the corrugated brow and eyelid, the retraction of the cheek, the dragged and elongated nostrils, the depressed angles of the mouth, the protruded chin, and the parted lips, with the teeth firmly clinched behind them, still further proclaim the seat of the disease.†

FIG. 10—Face of a Patient with Obstruction at the Pyloric Orifice.

The pale face, stamped with the signs of anxiety and distress; the head raised upon two or three pillows, and the trunk similarly supported; the knitted brow, which bespeaks the cerebral disturbance; the nostrils, waving to and fro with each breath; and the jugulars which, as they lie exposed in

* Corfe, op. cit.

† M. Louis, quoted by Marshall Hall, op. cit.

the throat, show that the valves of the heart are acting imperfectly, by their pulsation or unusual distention; all may be

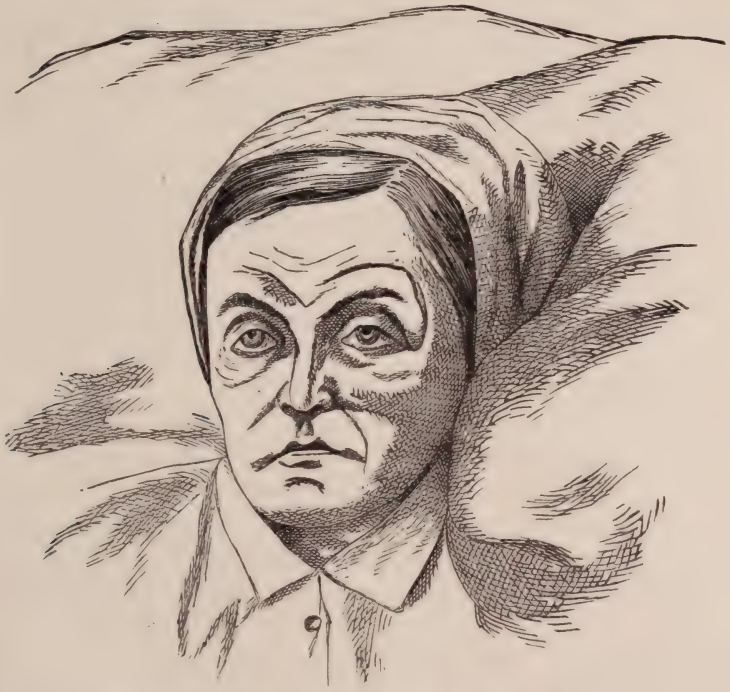


FIG. 11.—Cancer of the Abdominal Cavity. (Modified from Corfe.)

found in endocardial or pericardial inflammation, or in conditions of the heart dependent upon chronic valvular disease.*

The countenance of continued fevers is liable to receive a modification from their complication with some morbid affection of the head, the viscera of the thorax, or of the abdomen; the dejection produced by the latter of which is among the most important objects in the clinical study of these diseases.† In scurvy, the dirty ashy hue of the skin and its characteristic dryness; the blue and bleeding gums; the emaciation and the frequent indurations of the inter-muscular tissue of the cheeks;

* Corvisart, "Diseases of the Heart," Gates's translation. Boston, 1812.
† Marshall Hall, op. cit.

the sunken eyes, surrounded by a blue ring; and the livid tinge of the lips, make the diagnosis positive at once.

In Graves's, or Basedow's, disease, a peculiarity of the eye is produced, due to its partial protrusion from the orbit, probably from an increase of the intra-orbital fat, which stamps the disease beyond a possibility of error in diagnosis. In many cases, the inability to approximate the lids, and an absence of power to move the eye, on account of the paralysis of the muscles from the stretching which they have undergone, furnish evidence also of disease of that organ which enhances the facial deformity.

In Asiatic cholera, and in children during attacks of profuse diarrhœa, the eyeballs sink into the orbit, a dark ecchymosis appears in the region of the eyes, the lower eyelid forms a prominent fold in the region of its attachment to the cheek, the nose is pointed and sharp, and the lips, normally ruddy and full, become thin and sharply outlined. These changes are chiefly dependent upon a rapid emaciation, which follows the withdrawal of a large proportion of the water from the tissues.* In chronic atrophy, the entire absence of the adipose tissue in the subcutaneous structures causes the skin to become loose and corrugated; while various muscles become prominent from contraction (chiefly the frontalis, the corrugator supercilii, and the levator labii superioris).† Thus the so-called "senile face" or "Voltairean countenance" is produced, which is seldom to be mistaken in the child.‡

Among the diseases of the nervous system, there are certain types of physiognomy which are so characteristic as to be of the most positive value in diagnosis. Thus, in the attacks of epilepsy, the neck at first becomes twisted, the chin raised, and brought round by a series of jerks toward one shoulder. The features are greatly distorted. The brow is knit; the eyes are sometimes fixed and staring, at other times rolling about in the orbit, and again turned up beneath the eyelid, so that the cornea is covered and only the white sclerotic is to be seen; the mouth

---

* Vogel, op. cit.

† Marshal Hall, op. cit.

‡ Vogel, op. cit.

is twisted to one side and distorted; the tongue is thrust between the teeth, and, caught by the violent closure of the jaws, is bitten, often severely; and the foam which issues from the mouth is reddened with blood. The turgescence of the face indicates obstruction of the venous circulation; the cheeks become purplish and livid, and the veins of the neck are visibly distended.

The expressions of the countenance which are produced by paralysis of any of the special nerves of the face have striking peculiarities which enable the skillful anatomist to easily detect the nerve affected. It is important to remember that, if paralysis of any nerve be the result of any form of external injury, a danger is presented in the form of tetanus, which should be guarded against by a quick comprehension of the existing malady and by all known precautions, applied with judgment based on the anatomical course and relations of the nerve affected. It is also well to bear in mind the fact, that any form of severe external violence about the face may, by causing a fracture of the bones through transmission of the force applied, cause injury to some special nerve whose course may lie far distant from the apparent seat of injury. It is not infrequent to find a fracture of the superior maxillary bone followed by symptoms indicative of a foreign body within the cavity of the antrum; and symptoms of irritation of the nasal mucous membrane, or of neuralgia of some of the principal nerve trunks distributed to the face, may likewise follow such an accident. Violence to the vault of the skull may produce not only cerebral lesions and their subsequent evidences in the face and body, but also types of local paralysis,* produced by injury to some of the more important nerve trunks at their point of escape from the skull, in case the base of the skull has been injured.

"A slight tremor of the lips; a hesitation of utterance; a partial loss of power over the lips and tongue, which seem to have lost their grip, as it were, over the consonants; a characteristic stillness of all the muscles of expression; and a slight disparity in the pupils are the predominant features of the early

* Holden, op. cit.

stage of development of the general paralysis of the insane." * In those rare cases where the facial nerve of both sides is impaired, symptoms similar to those mentioned above exist, except that the tongue has its normal capabilities of movement, save in the perfect articulation of the labial consonants only, and that a complete absence of facial expression is present. An open mouth; a loss of control over the saliva, which constantly dribbles; an awkwardly moving or motionless tongue; and an indistinct articulation render the labio-glosso-laryngeal paralysis of Trousseau and Duchenne easy of detection.† In the so-called Bell's paralysis,‡ which has been described in previous pages of this article, the patient can not laugh, weep, or frown, or express any feeling or emotion with one side of the face; while the features of the other may be in full play. One half of the aspect is that of a sleeping or dead person; while the other half is alive and merry. This incongruity would be ludicrously droll, were it not so frightful and distressing.

During the fit of exacerbation, in an attack of tetanus, the aspect of the sufferer is sometimes frightful. The forehead is corrugated and the brow knit, thus expressing the most severe type of bodily suffering; the orbicularis muscle of the eye is rigid, and the eye itself staring and motionless; the nostril is widely dilated, indicating the extreme dyspnœa; the corners of the mouth are drawn back, exposing the teeth, which are firmly clinched together; and the features, as a whole, have a fixed and ghastly grin—the so-called "risus sardonicus." During such paroxysms, as in those of epilepsy, the tongue is liable to become protruded between the teeth and to be severely bitten.

In chorea, the facial muscles participate in the general eccentricity of movement. Watson§ thus describes the peculiarities of this strange affection: "The voluntary muscles are moved in that capricious and fantastic way in which we might fancy they would be moved, if some invisible mischievous being, some Puck or Robin Goodfellow, were behind the patient and prompted the

* W. H. Gairdner, Article on "Medical Physiognomy," in Finlayson's "Clinical Diagnosis."
† Finlayson, op. cit.
‡ Sir Charles Bell, op. cit.
§ Op. cit.

discordant gestures. With all this, the articulation is impeded; there is the same perverse interference with the muscles concerned in the utterance of the voice. By a strong figure of speech, the disorder might be called 'insanity of the muscles.'"

In catalepsy, the patient lies often with eyes open and staring, yet without expression indicative of life; more like a wax figure or a corpse than like a living subject. The features may be made to assume any expression, no matter how absurd, as the tissues have their normal pliability; and they will remain so placed until again mechanically altered. This same peculiarity is also present in the muscles of the extremities, and forms one of the distinguishing tests of the disease. The mental faculties are in abeyance, and all power of voluntary motion is lost. The sensibility of the body seems also to be lost.

The deformities of face and intellect which seem to be the result of residence in special atmospheric conditions, or of certain well-defined localities, are illustrated in that race of people found in Valais and the adjoining cantons of Switizerland, called "cretins." Many of these wretches are incapable of articulate speech; some are blind, some are deaf, and some suffer from all of these privations. They are mostly dwarfish in stature, with large heads, wide vacant features, goggle eyes, short crooked limbs, and swollen bellies. The worst of them are insensible to the decencies of Nature, and in no class of mortals is the impress of humanity so pitiably defaced. They are usually the descendants of parents afflicted with goître.

In that long list of pathological conditions in which the brain may be subjected to more or less compression of its substance, there are certain signs of positive value in diagnosis which may often assist the medical practitioner to locate the disease. Thus, in depressed fracture of the inner table of the skull, where the signs of external injury are absent; in abscess within the cranial cavity, during the course of meningeal inflammations; in apoplexy; in the development of intra-cranial tumors, etc., the eyelids will usually be closed and immovable; the pupils generally dilated or irregular, and always sluggish and less sensible to light than in health; the breathing will be slow and stertorous if coma exists; the special senses will be in abeyance; and the tempera-

ture will be either normal or increased. The evidences of a paralyzed condition of certain of the cranial nerves may also exist, and thus afford an additional means of determining the exact seat of the disease. A rigidity of certain muscles, if present, denotes some special irritation of the nerves which supply them, and it is, therefore, seldom present in cerebral softening, but frequently so in those cases where paralysis is produced by pressure upon nerve centers. In cases where the fifth cranial

FIG. 12.—Partial Paralysis of the Facial Nerve from Disease near the Pons Varolii. (Modified from Corfe.)

nerve has been impaired by pressure, injury, or disease, the prominent symptoms are a redness of the conjunctiva on the side of the face supplied by the affected nerve; insensibility of the cornea, nostril, and tongue on the same side; a dullness of hearing; a partial or complete loss of smell, sight, and occasionally of taste also in the anterior two-thirds of the lateral half of the

tongue; and a diseased state of the gums, similar to that observed in scurvy.

While many typical varieties of countenance, which are of value to the diagnostician, have been omitted, since the limits of a single article have possibly been already overstepped, still it is to be hoped that the facts mentioned, although they are but fragmentary jottings, may tend to kindle among the medical profession a renewed interest in a subject which is rapidly being lost sight of, and the value of which is often ignored. It is not to be expected that sight alone can guide the medical attendant to unerring diagnosis; but that it may prove of the greatest value *as an aid*, can not, I think, be disputed. It is to be remembered, that a direct perceptive faculty, like that of touch, hearing, or smell, *grows with use*, and is capable of unlimited development. As with the musician, an instrument which at first produced discords becomes, under skillful hands, one of melody; so the enlightened and accomplished practitioner may often see at a glance what, to one unaccustomed to note facial changes or to interpret their meaning, would escape detection, unless a special effort was made to note and record systematically the peculiarities of each particular feature and anatomical region of the face, and the records afterward studied, as the mariner studies his chart before he attempts to direct his vessel through channels with which he is not perfectly familiar.

A NEW medical association has been organized in Deadwood, Dakotah Territory, with the following officers: President, Dr. J. J. Houghton; vice-president, Dr. O. B. Thompson; corresponding secretary, Dr. J. C. O'Neall; secretary, Dr. B. B. Kelly. The other members are Drs. D. K. Dickinson, Lead City, D. T.; J. A. J. Martin, Rockford, D. T.; Wm. H. Dyre, Galena, D. T.; Henry Hunter, Deadwood, D. T., and H. Williams, Central City, D. T.

THE next Annual Meeeting of the Illinois State Board of Health will be held at Springfield, Ill., January 12, 1881.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Jan. 3 and 17.
West Chicago Medical Society—Mondays, Jan. 10 and 24.
Biological Society—Wednesday, Jan. 5.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLII.—FEBRUARY, 1881.—NO. 2.

Original Lectures.

ARTICLE I.

PITYRIASIS RUBRA.—Lecture delivered Nov. 22, 1880, at the Clinic, Rush Medical College. By James Nevins Hyde, M.D., Professor of Skin and Venereal Diseases, Rush Medical College. Reported by Dr. W. P. Verity.

Gentlemen:—Some of you were present in the neighboring necropsy theater of the Cook County Hospital, when I had the opportunity of examining the dead body of a man, with reference to whose case I desire to make some remarks this afternoon. Though requested by my colleague, in whose charge this patient had been, to examine the latter during life, I was unable to be present before the date of his death.

According to the statements of the hospital authorities, this patient had been a laboring man, was 32 years old, and a native of the State of New York, where he had lived up to within a very recent date. His father was killed during the late war, his mother died of some unknown disease at the age of 63, and he had three brothers and two sisters living, all in good health. An

attack of scarlatina in childhood had resulted in excessive deafness which made it difficult to communicate with him; and, later in life, he had suffered from typhoid fever without appreciable sequelæ. Two years ago, he considered himself in good health, but soon after this he noted the appearances, first upon his trunk and later upon his extremities, or from fifty to seventy-five, elevated cutaneous lesions which developed in succession. About eight months ago, there was extensive scaling of the surface of the body with an accompanying color change in the skin, which had been originally of a fair tint. When admitted to hospital, November 1, it resembled that of an octoroon, the nodules or "tubercles" referred to before, still appearing on its surface. So extensive was the exfoliation of the epidermis, that large handfuls of scales could be gathered from his bed each morning, the desquamation being most distinct on the dorsum, elbows and popliteal spaces. About the neck, hips, elbows and shoulders, fissures formed in the cuticle, which bled when irritated. A bed-sore formed during his illness, between the shoulder-blades, where several of these fissures had coalesced and where "tubercles" had existed. His emaciation was extreme and his weakness increased till locomotion became impossible. His tongue was thickly furred, his voice hoarse, appetite poor, and his sleep greatly disturbed by the distress occasioned by the itching of his skin. Evidence of disorder of the lungs, liver and spleen was wanting, but a systolic cardiac murmur was audible. The highest temperature attained during his stay in hospital was 100° F., and the most frequent pulse-beat 104 to the minute, though in both respects the normal standard was observed during the periods of comparative comfort. During the febrile exacerbations, there was considerable thirst.

He grew gradually weaker till an obstinate diarrhœa supervened, the fatal issue being announced by three separate convulsions in as many hours, on the afternoon of November 9. In the last of these he died, the relaxed sphincters permitting exit of the contents of the bladder and bowel, while the legs were flexed upon the thighs, and the thighs upon the abdomen.

A post-mortem section was not permitted, but the body was examined by me, almost as soon as cadaveric rigidity had occurred. The general color of the skin was very suggestive of

the mulatto, and this was true of the entire surface. There was marked emaciation but no œdema of the lower extremities. The hair was thin, dry and short, and the expression of the face, still evident after death, pinched, anxious and worn. The entire surface of the body was, to a greater or less degree, covered with thin, dry, papery scales, grayish-white in color, which could be readily removed from the integument by passing the finger over them, and which, in places, were heaped up in lamellæ, especially over the scapulæ, hips and thighs. The skin did not seem to have been infiltrated to a marked extent, though the post-mortem evidences of such a condition would not have been perfectly appreciated. Here and there the sites of the fissures, described during life, were manifest, and the resulting bed-sore between the shoulders, was marked by a limited loss of tissue.

The so-called "tubercles," split-pea to marble sized elevations of the integument, were sparsely and unevenly distributed over the trunk and extremities, chiefly on the anterior and lateral aspect of the body, none whatever upon the face. When touched, these seemed to be, on pressure, moderately firm, but, detecting a softer point at the summit, I incised several, and thus gave exit to a quantity of fluid pus. The "tubercles" were really circumscribed subcutaneous abscesses, projecting upward through the skin proper. In some the subcutaneous cellular tissue had been involved to a greater extent than the size of the phlegmon would indicate when viewed superficially, for from several of smaller size, there flowed more than an ounce of matter.

The chief objective signs of disease, post-mortem, were, however, the singular pigmentation of the entire surface, and the universal exfoliation of the epidermis, in quantities sufficient to cover the hands passed over the surface.

An accurate post-mortem diagnosis of disease, is often as useful for the living as it is needless for the dead. In a case of disease of the skin, such a diagnosis is the more difficult to establish as the fluids which once circulated are at rest, and all the pathological processes ended. We are then not in the presence of an actual disease, but confronted with the imprints merely, of a disease which has vanished. In the case of several affections of the in-

tegument, as for example, the hyperæmiæ, even these imprints are removed with the life of the patient.

I think that the facts in the case described, justify us in believing that the patient, when living, suffered from pityriasis rubra, a disease whose extreme rarity, both in this country and abroad, renders its distinct recognition difficult and not unattended with a certain element of doubt. Since first described by Devergie, it has been the subject of observation and study by the late Prof. Hebra and Prof. Kaposi, of Vienna; by Professors Duhring, of Philadelphia; G. H. Fox, of New York; Drs. Guibout, of Paris; Jamieson, of Edinburgh, and others. If we accept the facts as reported by these authors, and by their aid interpret the utterances of the great master in dermatology, we must admit that the term pityriasis rubra should be extended to a wider range of phenomena, than the latter was at first disposed to allow. His three cases, all terminating fatally, were those of patients whose sole skin symptoms were, a crimson to pale-yellow tinting of the integument, this coloration being indistinguishable after death, and free exfoliation of large masses of dried epidermic plates. In all, cachexia was strongly marked. The itching was slight, and there was no infiltration in, nor secretion from, the skin. But in the case reported by Prof. Duhring, the skin *was* infiltrated, some fissures were noted, there was moderate itching, and decided involvement of the hair and nails. At the date of this report, a fatal result had not occurred. Under the title of "general exfoliative dermatitis,"* Jamieson describes a series of very interesting cases, which serve to extend still further our knowledge of the history of this disease and to aid in an appreciation of its variations from type. In the first of these, there was the same mulatto-like pigmentation, which was apparent, both before and after death, in the skin of the body examined by ourselves. There was also in Jamieson's patient, infiltration, extensive desquamation, and dusky redness of the surface, apparently complete recovery resulting. In his second case, fissures are described, and an accompanying diarrhœa. In a third, itching was a prominent symptom. In the last, there were successive

* *Ed. Med. Journ.*, April 1880, p. 879.

crops of imperfectly formed bullæ, which burst before becoming tense, the disease terminating fatally. Kaposi reports one case of recovery, and admits that the itching may be at times quite severe, and that fissures and infiltrations may be consequences of the process.

These cases, considered together, seem to me to justify the conclusion already stated, respecting the nature of the disease from which our patient suffered when alive. The question of diagnosis, however, involves the necessity of considering, in this connection, another disease, one also accompanied by epidermic exfoliation, and always, according to Hebra, of fatal issue, viz., pemphigus foliaceus. In the latter, crops of reddish or yellowish bullæ occur, usually not tense, their walls slightly corrugated, the injected vessels of the base showing through the thin layer of fluid contained in the bleb. The latter dries eventually into effete masses, said to resemble flaky pie-crust, and general exfoliation ensues. The health fails, as the disease progresses, and fresh crops of bullæ appear, diarrhœa supervening as a frequent epiphenomenon.

Had then this patient of ours, when living, the symptoms of this curious and equally rare disorder? I am inclined to think we should answer, both yes and no. Unquestionably, the appearance of the multiple subcutaneous abscesses suggests to the mind the ill-conditioned bullæ of pemphigus foliaceus, but then, in the form we have described, the roof-wall was constituted of the entire thickness of the epidermis. It was, thus, opaque, entirely obstructing the view of any vascular elements, were there such at the base of the lesion, and was superimposed upon an abundant thick pus, not the serum of the pemphigoid lesion. The circumscribed elevations of the epidermis, produced by the projection of these abscesses, were, moreover, of the color of the unaltered skin, and their creamy contents did not, by drying, furnish the material exfoliated from the surface, this last having evidently a much more superficial origin. The occurrence of multiple subcutaneous abscesses in any given form of disease, seems to be rather an accidental than an essential feature of any of them. Given a broken-down and depraved constitution, a profound change in the nutritive processes going on in the skin, severe or

even moderate itching, associated with irritation of the surface by scratching with the finger-nails, and the complication named need not surely be regarded as at all extraordinary. We notice similar results in certain forms of eczema, in hereditary syphilis, severe acneiform lesions of the face, and in several of the benign affections of the scalp. In the present case, it is noteworthy that almost all of the abscesses occurred on those parts of the body most accessible to the hands.

At the same time, I am inclined to believe that the conclusions of Jamieson are entitled to consideration. Intermediate forms between typical pityriasis rubra and pemphigus foliaceus, should not surprise us. These words are, after all, but convenient titles under which we classify our facts as we gather them in the close observation of the several disorders of the integument. Jamieson regards the last mentioned disease as allied to, if not identical with the former, occurring in a more acute form than in that chronic superficial dermatitis, characterized by cuticular exfoliation, of long duration, rebellious to treatment, and frequently terminating fatally.

If there be such intermediate forms, the symptoms we have been considering should be assigned to such a category. The relatively brief time during which our patient suffered from his disease should not be forgotten, nor the febrile exacerbations revealed in his temperature record, nor yet the speedily manifested gravity of his symptoms, declared by the rapid failure of the powers of life. These all point to pemphigus foliaceus, while the symptoms of pityriasis rubra, as I have attempted to outline them, were no less prominent. The etiology and pathology of the two affections are equally obscure, and, considering the little that is known of the exact nature of each, we are justified by the facts in concluding that the two are expressions of a profound disturbance of the economy, possibly associated with lesions of other organs, of as great importance as the skin itself, the cutaneous manifestations approaching or departing from the type described by authors, as circumstances may determine. The nervous centers may be primarily at fault, but of this, in the absence of all observation and fact, we are not assured.

Few other diseases can be confounded with these, if we regard

the feature of gravity imprinted on each, at some period in its course. I have heard that in this case a suggestion was made that the patient was leprous, and the marked pigmentation of the skin might have lent color to such a supposition. On hearing this, I remarked, at the time, that the so-called "tubercles" were not situated upon the face and forehead, where they are usually to be recognized in tubercular forms of leprosy; but the prompt discovery of the real nature of these abscesses dissipated at once the possibility of such an error. Leprosy in any form is, moreover, rarely fatal in such a relatively brief period of time, and when it furnishes a history of previously existing bullæ, we are tolerably sure to find distinct traces of these in variously shaped and sized atrophic patches, usually insensitive to the thrust of the lancet, and more pigmented in center or periphery than the surrounding integument. The hyper-pigmentation of leprosy is disposed with great irregularity, and rarely presents to the eye the uniformly-diffused, mulatto-like tint recognized in this case. The bullæ of anæsthetic leprosy are, in my observation, of deeper origin than those of pemphigus, and have a thicker roof-wall and less vascular floor. The contents, too, are usually limpid, and not decidedly purulent. The hoarseness of the voice also, in this case, lent some color to the leprous hypothesis; but you remember that we recognize this symptom in several other disorders accompanied by skin lesions, as, for example, syphilis, variola, scarlatina, lupus and carcinoma. Nothing but the discovery of leprous tubercles in the larynx would be sufficient, in the absence of other unmistakable symptoms, to establish the fact of leprosy. Hoarseness is sufficiently common in states of general adynamia, in emotional excitement, and even as a result of the internal use of an opiate. The debility of a patient affected with pityriasis rubra or pemphigus foliaceus, might be sufficient to produce this effect, but we can well understand how, in either case, a disease which is accompanied by an intestinal catarrh might display lesions of the mucous membrane of the respiratory tract distinguishable with the laryngoscope.

If this be indeed the grave picture of pityriasis rubra, what then is the nature of the cases, incorrectly designated by that name, of which we hear verbal accounts almost every year, the

reports of which are not infrequently printed in the journals of medicine? Several such have been observed in this city, and of these a certain proportion have come under my own observation. I think that you will find the immense majority of them all to be either cases of psoriasis diffusa or of extensively-spread eczema squamosum. A few years ago I was called to see such a case in Mercy Hospital. The patient was a well-developed healthy male, who was shedding his epidermis freely from every portion of his integument. His bed-clothing was filled with scales, and the mere gentle passage of the hand over the surface of his skin was sufficient to induce a shower of pulverulent flakes. The integument beneath these was smooth, shining and crimson-hued, without a trace of fissure or sign of infiltration. The itching was by no means severe. It proved to be an aggravated form of psoriasis, the patient recovering rapidly under hospital treatment, showing characteristic palm-sized patches of the disease before he was dismissed.

Nearly of the same character was the case of a patient shown in this clinic last year, the slight difference between the two being due to the fact that, at the date of examination of the latter, the entire surface was not involved, though there was a history of such involvement. Recovery was prompt and without singularity. Another instructive case I observed in private practice, that of a young man, whose epidermis, when he came to me, was the source of an abundant dry, papery scaling, at every point of the surface of the body, the skin beneath being smooth, crimson-hued and very slightly infiltrated. The itching was of a mild character. He improved while wearing india-rubber under-garments, and taking arsenic, a remedy which, I may say in passing, has no beneficial effect upon pityriasis rubra, though administered in the largest doses and for the longest periods of time. This young man's disease relapsed, as is often the case in psoriasis, and the second efflorescence was in the form of perfectly typical lesions of psoriasis guttata. In neither attack was there the slightest interference with the general health.

It is proper to call your attention here to the fact that Dr. Tilbury Fox, though a careful observer and a dermatologist of experience, was unquestionably in error when he wrote that

psoriasis never involved the entire surface of the body. My personal experience in these and a few other cases would have certainly convinced me of this, even if I had not seen a formal statement of the reverse of the proposition in the language of Prof. Hebra.

Personally, I cannot say that I have ever seen a case of squamous eczema which would suggest the disease we have under consideration, though such are described. A patient affected with universally diffused eczema was shown me last year by a student of this class, and the sick man was one of the most pitiable objects to be seen. His dull red skin was scaling extensively, but also weeping at innumerable points, the syrupy ooze drying here and there over the surface into characteristic eczematoid crusts. The infiltration was extensive, and the itching simply frightful. There is one tolerably pronounced feature of all cases of this class, which you will scarcely fail to notice. It is that the patient thus affected does not accommodate himself to his disease, as do the others. His skin is sore, tender, and exquisitely sensitive. He is apt to be almost as careful in the movements of his body and in the management of his eczematous limbs as if he were the subject of a fracture or a dislocation. While patients affected with this spurious "pityriasis rubra" (in other words, with exaggerated or diffuse psoriasis), will readily get out of the bed when requested to do so, will stand painlessly before their examiners, and assume such postures at the request of the latter, as best permit of a complete survey of the integumentary surface.

In pityriasis rubra, the prognosis is, you need not be told, unfavorable; and the treatment correspondingly unsatisfactory. It would be proper to apply bland oils and soothing unguents to the surface in order to protect the skin of the patient who is engaged in a labor aptly termed by Guibout "gigantesque." Such a course will merely assist in shielding from the inhospitable atmosphere the shivering victim who is involuntarily engaged in stripping himself of his epidermis. Internally the arsenical preparations should be avoided, and such tonic and roborant measures instituted, both as to diet and medicine, as are best calculated to sustain and invigorate the failing vital forces.

Original Communications.

Article II.

The Value of Homatropine in Ophthalmic Practice. By F. C. Hotz, M.D., Chicago.

This new mydriatic, which was briefly noticed in the November number of the Journal and Examiner (p. 477), is destined to play a prominent part in ophthalmic practice. It seems to be just the remedy long wanted for the purpose of certain examinations of the eye, and to close an unpleasant gap in the small list of useful medicines for local applications upon the eye.

The form in which it is sold* and used, is the hydrobromate of homatropine. This salt forms small, transparent, needle-like crystals, which are readily dissolved in water. The solution is perfectly clear and colorless, and not liable to spoil. When dropped upon the conjunctiva of the lower lid, it produces some congestion of its blood vessels, and a peculiar, sometimes slightly smarting sensation. One gentleman compared the sensation to that created by very weak sulphuric acid upon the tongue. In every instance this slight irritation subsided spontaneously inside of fifteen minutes.

Its effect upon the eye is exactly that of a solution of sulphate of atropia—it dilates the pupil and suspends the power of accommodation by paralyzing the ciliary muscle. And still the two mydriatics show a remarkable difference in their action, inasmuch as the effect of homatropine subsides in twenty-four hours, while the effect of an equally strong solution of sulphate of atropia lasts many days.

* It can now be obtained of Messrs. Gale & Blocki, 85 Clark street, in this city.

When a drop of a one per cent. solution of atrop. sulph. (gr. v, ad. ℥j) is put in a healthy eye, the pupil shows the first sign of dilatation within fifteen minutes, and complete expansion in twenty or twenty-five minutes. The full mydriasis lasts about forty-two hours, but the pupil does not recover its normal size and mobility until the eleventh or twelfth day.

A solution of 1-18 per cent. (gr. j, ad. ℥iv) produces a good dilatation of the pupil in thirty minutes, and complete mydriasis in sixty minutes, and the effect of this weak solution even is visible till the seventh day.

In order to limit the effect to twenty-four hours, it is necessary to use a solution of the extreme attenuation of 1-144 per cent. (gr. j, ad. ℥xxx), which, however, produces only an incomplete mydriasis, after forty to sixty minutes,* and does not affect the accommodation in an appreciable degree.

Homåtropine, on the other hand, manifests a tendency in the opposite direction; its effect is short lasting, and we can, it seems, scarcely make its solution strong enough to prolong its effect beyond twenty-four hours. A few observations, selected from a series of experiments with solutions of various strength, may serve to illustrate it.

1. *Observation with a five per cent. solution.*—When I first received a small quantity of homatropine, the solution was made five per cent. instead of one per cent.; but I did not discover the mistake until I had used it in the eye of a young lady for the purpose of paralyzing the accommodation. The lady, sixteen years of age, came to the city to be relieved of convergent strabismus of a high degree. The sight of each eye, tested before the operation, was found 20–30; it was made worse by convex spherical glasses, although the ophthalmoscope revealed a high degree of hypermetropia; nor was it benefited by convex cylindrical glasses, although the existence of astigmatismus was established by certain tests.

Four days after the tenotomy of both internal recti muscles, another examination of the sight had the same result. I then put one drop of the solution of homatropine, just received, in

* See Donders, "Anomalies of Refraction and Accommodation."

each eye. It smarted a little, and the conjunctiva became flushed. In ten minutes the pupils began to expand, in twenty minutes they were completely dilated; and in thirty minutes, when the sight was tested, the accommodation was completely suspended; each eye showed hypermetropic astigmatismus corrected by $+ 8 \supset + 36c$, and $V = \frac{20}{20}$. I saw the patient again two days later; the pupils of her eyes were small, and readily responded to the influence of light; and she could read the finest type (Jäg. 1) with $+ 10 \supset + 36c$, which combination suited her eyes best also for the distance.

2. *Observation with two per cent. solution.*—A boy, eleven years old, delicate and scrofulous, complained that when reading, his eyes often ached (they felt as if he "had sticks in them"), and the letters got blurred. There was considerable hyperæmia of the tarsal conjunctiva, with enlarged follicles in the lower retro-tarsal folds. $V = \frac{20}{20}$, worse with $+ 60$; but he read Jäg. 1 no nearer than eight inches. Ophthalmoscope showed a normal fundus and H $\frac{1}{36}$. Homatropine was put in the eyes at 11 o'clock a. m., and began to enlarge the pupils at 11:10; at 11:20 complete dilatation and H $\frac{1}{50}$; at 11:30 H $\frac{1}{36}$; and at 12 o'clock also H $\frac{1}{36}$. I am informed that the pupils remained dilated until 6 p. m.; after that hour they slowly grew smaller, and recovered their normal size in the afternoon of the next day. In the morning of this day he could easily read ordinary print, and at noon the smallest print in the daily *Tribune*.

3. *Observation with one per cent. solution.*—On December 29, a young lady consulted me in regard to her eyes, which very often, in reading, get red, and smart, and overflow with tears. I found a marked degree of conjunctival hyperæmia, M $\frac{1}{50}$, $V = \frac{20}{20}$, and a normal condition of the fundus. For the purpose of ascertaining whether the slight myopia was real or due to spasm of the ciliary muscle, homatropine was used. At 11:20 a. m. two drops of a one per cent. solution were instilled in each eye; at 11:30, incipient dilatation of pupils; at 11:45, complete dilatation; at 11:50, accommodation paralyzed; cannot read ordinary print; M still $\frac{1}{50}$; at 12:30 p. m., M $\frac{1}{50}$, $V = \frac{30}{30}$; at 2:30, pupils still completely dilated; can read Jäg. 5 at eighteen inches, but no nearer; at 3:50 p. m., pupils showed a slight

contraction; Jäg. 3 at seven inches; at 7 p. m., pupils perceptibly smaller; Jäg. 2 at seven inches. At noon of the following day pupils had recovered their normal size and activity.

4. *Observation with one-half per cent. solution.*—Dr. T. W. Campbell, at the Eye and Ear Infirmary, kindly allowed his left eye to be used for the experiment. Tested before the use of homatropine, this eye was found emmetropic, with near point at eight inches, V = $\frac{20}{20}$. The doctor's age is thirty-six years. The instillation of homatropine caused a flushing of the conjunctiva and a peculiar sensation which the doctor compared with the sensation very weak sulphuric acid produced upon the tongue. 2:25 p.m., homatropine applied in left eye; 2:35 p.m., left pupil a little larger than the right, but still responding to light; 2:45 p m., complete dilatation of pupil and paralysis of accommodation; V = $\frac{20}{20}$, emmetropia; could not read very large print (Jäg. 18), but read Jäg. 1 exactly at twelve inches with +12; if, however, the print was put half an inch nearer or further than twelve inches, he could not read it. At 4 p. m., the pupil showed the first indication of contraction, and the eye had recovered such accommodative power that it could see very large letters (Jäg. 19) at twenty inches; but after a few moments they became dim.

The doctor continued the reading tests, and furnished me with the following observations: At 5 p. m. he could read Jäg. 19; at 5:30 p. m., Jäg. 18; at 6:30 p. m., Jäg. 15; at 7:45 p. m., Jäg. 9; at 8 p. m., Jäg. 3; and on the afternoon of the next day, when I saw the doctor again, he could easily read Jäg. 1, although the left pupil was still a trifle larger than that of the right eye; the near point again at eight inches.

These observations, which substantially agree with the results of other experimenters, sufficiently illuminate the peculiar merits by which homatropine distinguishes itself from atropia. Both are equally prompt in dilating the pupil and in suspending the power of accommodation; but it requires almost two weeks for an eye to recover from the effect of a one per cent. solution of sulph. atrop., while the effect of a solution of homatropine of equal and even much greater strength subsides entirely within twenty-four hours. This rapid but brief effect of homatropine

at once determines its relation to atropia in ophthalmic practice. It cannot be used advantageously (and consequently will not displace atropia) in the treatment of iritis and kindred diseases in which a continued uniform mydriasis is of paramount importance. And this is a very fortunate circumstance for the patients, inasmuch as homatropine is a rather expensive medicine—one grain costs about seventy cents at wholesale, so that the prescription druggist would charge at least two and a half or three dollars for one ounce of a one half per cent. solution (which is the standard solution of sulph. atrop. usually employed).

But homatropine will be employed in lieu of atrop. sulph. whenever we desire to dilate the pupil temporarily for the purpose of ophthalmoscopic examinations, or whenever we wish to suspend the accommodation in testing the eye for certain anomalies of refraction. For such purposes homatropine is the mydriatic *par excellence*, and possesses great advantages over atrop. sulph. It removes many annoyances which patients had to submit to in using atropia. In order to protect his eyes with dilated pupils against the unpleasant or even dangerous effect of bright daylight, the patient has to wear dark glasses or to remain in a darkened room until the natural mobility and size of the pupil is restored. With atrop. sulph. it required from seven to twelve days; with homatropine hardly as many hours.

It is a matter of no small consideration for a business man to be deprived of the full use of his eyes for nearly two weeks; and I have often noticed the great reluctance with which he consented to the use of atropia during the examination of his eyes when he was informed of the inconvenience necessarily resulting from it. I have known people to defer the examination on this account many weeks, or to give it up entirely.

In the case of a child, people dislike very much the idea that it will be unable to attend school for nearly two weeks after atropia is put in its eyes.

And a very serious question, involving a great loss of time or money, or both, may be the application of atrop. sulph., if the patient come to town from a distant city. If his eyes need glasses for astigmatism, and were tested under the influence of atropia, he was left in this dilemma: either he might go home, to

return to the city after two weeks for the final examination, or he had to remain in the city two weeks, until the effect of the atrop. sulph. would have passed off, and his eyes would be ready for the final examination. This alternative was very disagreeable, but unavoidable—at least I adhere, in my practice, strictly to this rule: I do not order glasses for astigmatic eyes which have been examined under the influence of a mydriatic, without having had another examination after the effects of the medicine have entirely subsided. For the combination of glasses which corrects the astigmatism very nicely and accurately under the influence of atropia, very often needs some alteration to suit the eyes after the return of the accommodation. The first glasses may be theoretically correct; but the patient sees no satisfaction in knowing that, if he cannot use them. Suppose we have found a hypermetropic astigmatism corrected under atropine by + 8 ⊃ + 36c, but after the return of accommodation the patient rejects these glasses because they positively dim his sight, while he can see perfectly well with + 10 ⊃ + 36c. This patient would care very little to know that the first glasses are mathematically correct, as long as he cannot use them; he will consider the right glasses those which give him the clearest sight and the greatest comfort. For this reason I regard the final examination, after the activity of the pupil and ciliary muscle has returned, as necessary, if we wish to be certain that the prescribed glasses will give the patient the expected comfort.

This long delay of the final examination, together with other annoyances, is removed by substituting homatropine for atrop. sulph. In six hours the pupil has regained sufficient activity to render the eye all necessary protection against bright light; in twelve hours the accommodation has recovered such power that the patient can read and write tolerably well; and in forty-eight hours, at the latest, the final test in astigmatic eyes may be made, even when a strong solution of homatropine was used.

In the most instances a one-half per cent. solution will answer all purposes; it is strong enough to produce the desired enlargement of the pupil in fifteen or twenty minutes, and to paralyze the accommodation in thirty or forty minutes. Stronger solutions do not seem to take effect in a shorter time than fifteen or

twenty minutes, and for this reason we gain nothing by their use under ordinary circumstances. Only in cases of hypermetropia of young persons, and in astigmatic eyes where we have reason to suspect the existence of habitual spastic contraction of the ciliary muscle, the use of a stronger (two per cent.) solution is indicated in order to insure a speedy and complete relaxation of the ciliary muscle.

It has been stated by Prof. Ladenburg, the discoverer of homatropine, that it is not poisonous. I consider my experience too limited yet to venture an opinion on this point; but if homatropine really is non-poisonous, and consequently its use is not likely to produce any constitutional disturbances like atropia and duboisia, it has an additional advantage over its rivals, and may justly be placed at the head of the list of mydriatics.

Article III.

Curability of Uterine Displacement. By P. O'Connell, M.D., Sioux City, Iowa.

At a recent meeting of the Obstetrical Society of London, Dr. Graily Hewitt read a paper on Uterine Displacement. During the discussion of the paper some very strange opinions were expressed, and coming from old and experienced teachers are apt to mislead. Dr. Matthews Duncan said: "The treatment of displacement without descent, whether it was desirable or not, was an utter failure; and displacement was never cured, in the sense that the uterus afterwards remained in place without a pessary." With all due respect to the opinion of Dr. Matthews Duncan, I beg to say that the treatment of uterine displacement, in my hands and in the hands of my professional friends in Chicago, has been attended with most gratifying success; and, *in the sense that the uterus has remained in situ without a pessary*, the displacement *was absolutely cured*. All the distress and in some cases, dangerous symptoms passed away; the bowels became regular; menstruation became normal where before it was abnormal; the general health was entirely restored.

Until I read the astounding asertion of Dr. Matthews Duncan, I did not suppose there was any doubt of the curability of uterine displacements with pessaries. Fifteen years ago, displacements of the uterus were not supposed, except by a few, to give rise to serious trouble. Even to-day so high an authority as Dr. Duncan declares, "It would be nearer the truth to say it" (displacement) "had little or no importance." Mr. Thornton agreed with Dr. Duncan, and believed that cases complicated by descent "alone gave trouble or required aid;" while Dr. Savage said, "pessaries without stems merely kept the uterus out of the vagina." I believe it was the late Dr. Washington L. Atlee who declared that while he withdrew many pessaries, he never had inserted one, and had no faith in them. I am acquainted with a very distinguished physician and teacher in Great Britain who makes no pretense to a knowledge of gynæcology, has no faith in pessaries, and treats uterine displacements by simple replacement daily with his finger. Such sweeping condemnation of pessaries without at least a trial, is unphilosophical. Surely neither of the gentlemen named will say that epilepsia gravior and long-continued menorrhagia are of "no importance," or should go untreated. And yet I have encountered these conditions, as the result of the displacement, in the cases recited below, and there *was no descent of the uterus.* As ideas have changed on the utility of pessaries, so, too, the strong opinions now held and expressed by very distinguished writers, with regard to the incurability of displacement with or without descent, may have to be radically changed ere long. Such dogmatic assertions by well-known teachers sometimes acquire peculiar importance for the general practitioner when, in the hands of dishonest and evil-disposed parties, they are employed to sustain a suit for malicious malpractice. Hence I consider it a duty incumbent on those who are in a position to contradict such teachings to do so.

Unwilling to occupy much of your valuable space, I offer very short notes of a few cases *cured* in every sense of the word. While all were patients in private practice, all were obliged to do pretty hard work either as assistants in shops or in the management of their homes and families. All were permitted, without restriction, to attend to their customary duties after the insertion

of the pessary, and instructed to go out of doors daily for exercise. I confine no woman to the house after the insertion of a suitable pessary.

The few cases here given are of retroflexion alone, and the conclusions deduced from them apply equally to cases of the other displacements. The instrument employed in all the cases, save one, was that known as Smith's modification of the Hodge pessary. No woman was pronounced *cured* until it was ascertained by actual trial that she could dispense with the instrument. This is done by removing the pessary and permitting the patient to discharge all her duties as before. If, after the lapse of a few weeks, the uterus is found in normal position, as determined by the finger and the sound, the pessary is not re-introduced. My observation of these women extended over one year, the shortest, to four years, the longest, period after the removal of the pessary; and in no case was the displacement reproduced. Surely, a woman who has freely discharged all her duties for an entire year after the removal of a pessary, without any return of the displacement, is entitled to be called *cured*. If she cannot be called cured after that time, then I admit uterine displacements are incurable. I have seen many who are really incurable no matter what plan of treatment be employed, even while the uterus is free and easily raised into position. This is the experience of every man who deals with diseases of women. Is it, then, right to conclude that because some are, all must be incurable? The conclusion is absurd. The want of due care in selecting a pessary, in form and size, to suit each individual case, is also a cause of the distrust of pessaries. I have seen pessaries turn completely upside down or fall in front of the cervix when they should be the other way. The man who should employ so ill-fitting an instrument can meet with nothing but disappointment, and is pretty sure to be the first as well as the loudest in condemning pessaries.

In two instances only of my cases, case I and VII, was the displacement complicated by descent of the uterus, and in neither case did the descent cause any particular trouble.

Case I. Mrs. B, aged twenty-six, had three children; general health considerably below par; had an abortion in third month of pregnancy, eighteen months before coming under my care.

Doubtless the flexion happened then. Has prolapse, sometimes down to the vulva, owing to enlargement of the body of the uterus. Menses scanty. On July 27, 1875, I inserted a pessary, which she wore eight months continuously. On March 29, 1876, I withdrew the instrument against her wish, and never after re-inserted it. Menstruation became normal, and her general health entirely restored.

Case II. Mrs. K., aged thirty; one child. Flexion exists, most likely, one year. Patient so weak as to be obliged to resign her situation in a dry-goods establishment. During defecation, the contents of the bowel caused such intense suffering in the retroflexed fundus, that she voluntarily induced obstinate constipation. July 5, 1876, inserted a pessary, and withdrew it November 5, 1876. Her health was entirely restored, and she was able to resume her situation.

Case III. Mrs. E., aged twenty-two, married fourteen months; not yet pregnant. Eighteen months ago menstruation became irregular, with pain in the uterus, during defecation, the day before the flow appeared. Had suffered pretty severely from menorrhagia, for which she consulted me. Is much exhausted. Inserted a pessary, November 27, 1876. It was removed twice for trial during 1877, and withdrawn finally, February 28, 1878. Menstruation became normal; health entirely restored.

Case IV. Mrs. C., aged thirty; five children; had a miscarriage at seven and a half months, due to syphilitic infection by her husband. She suffered from menorrhagia and was extremely debilitated. Flexion exists six months. On February 8, 1877, inserted a pessary, and removed it February 14, 1878. Menses became normal, and health good. Had one child, at term, in March, 1880.

Case V. Miss D., aged twenty and a half, is quite anæmic and has a severe eczema. Three years ago amenorrhœa and dysmenorrhœa began; possibly flexion began then and was the cause of the menstrual difficulties. Inserted a pessary February 11, 1877, and removed it February 6, 1878. The anæmia disappeared and menstruation became normal.

Case VI. Mrs. O., aged thirty-seven, never pregnant; health fair, and menses regular. Had acute endo-metritis; after its

cure the uterus was found flexed, the flexion being only of a few days duration. Eight years ago, this lady had suffered for some months from acute retroflexion, caused by constipation. At that time she was under another physician's care, who did not suspect any uterine mischief for a few months, during which she had several attacks of epilepsia gravior. When the flexion was cured then by means of tents and a pessary, the epilepsy ceased and did not recur. Inserted a pessary February 4, 1878, and removed it on February 22, 1878.

Case VII. Mrs. L., aged twenty-seven, four children; nursing. Has prolapse, and much leucorrhœa; debilitated and hysterical. Flexion exists a year. Inserted a Hodge pessary on June 5, 1878, and removed it December 15, 1878, as she had "quickened," pregnancy having taken place during the use of the pessary.

Case VIII. Mrs. W. aged forty, a very large, awkwardly fat woman, and quite debilitated. Is twenty years married, but never pregnant. Suffered from frequent micturition for the past fourteen months. There is subacute vaginitis. Doubtless the flexion is as old as the vesical irritation. Menses regular. Inserted a pessary January 14, 1879, and removed it April 4, 1879. The vesical irritability passed away with the correction of the flexion.

With this case, I will close my communication, already, I fear, too long. Were it necessary, I could cite other cases equally interesting and important. From these cases I hope it is clear that *displacement* of the womb possesses *much* importance, and that, too, when there is no *descent* of the organ. In addition to these cases, an unmarried lady, a music teacher, came under my care quite recently, suffering from retroflexion with slight descent. The flexion was recognized six years ago, and may be of ten years duration. During that time she is afflicted with severe and very irregular epilepsy. A suitable pessary kept the uterus *in situ* after it was elevated. While the pessary was worn she had no epileptic paroxysm. On the removal of the pessary, the attacks recurred. The insertion and removal of the pessary was tried sufficiently often to prove that the flexion of the uterus was the cause of the epilepsy. She still wears her pessary; the

result, therefore, cannot be foretold so far as the effect on the flexion is concerned. Even if the flexion must remain uncured, and I suspect it is incurable in this case, the benefit of the pessary is well displayed by warding off the epileptic paroxysms, a matter of the very greatest, in fact incalculable, benefit to this lady.

I feel warranted in deducing the following conclusions from my experience:

1. Displacements of the uterus are, in the great majority of women, serious.

2. That descent adds but little, in many cases, to the gravity of the trouble.

3. That displacements can be cured, by suitable pessaries, in the sense that the pessary may be discarded after a time, and the uterus remain *in situ* without the support the pessary afforded—that the displacement is absolutely cured.

ARTICLE IV.

A CASE OF IRITIS SEROSA. By Dr. E. J. Gardiner, Assistant Surgeon for the Illinois Charitable Eye and Ear Infirmary.

Plastic iritis is so well characterized by its severe manifestations that the diagnosis is easy for any physician who has attended an ophthalmic clinic. The symptoms of idiopathic or plastic iritis are: pericorneal congestion, contraction and sluggishness of the pupil, posterior synechia, which makes the pupil irregular, discoloration of the iris, lachrymation and severe pain about the supraorbital region, sometimes extending to all the sensitive branches of the fifth nerve. If the disease is in its first stage, when the pupil is not yet contracted, the pericorneal injection not marked, and the pain not felt, some little difficulty may be found in making the diagnosis; this, however, is the exception, not the rule.

In iritis serosa the condition varies entirely. It is by nature an insidious disease, and may run its course, implicating both the ciliary body and the choroid, with such small manifestations, that

even the most experienced may be duped by the disease. Of course cases differ very much, and while one patient may present himself with an eye, the appearances of which would not lead one to suspect any trouble of the iris, another will present himself with a collection of symptoms, which will easily lead to the correct diagnosis.

Iritis serosa and hydromeningitis, are names given to a special form of iritis, characterized by a peculiar implication of the posterior layer of the cornea (Descemet's membrane), which becomes covered with little grayish spots, so loosely attached that a drop of water, allowed to flow over the membrane, will wash them away. These little spots sometimes group into a circle, but more frequently into a triangular form, the basis being directed toward the periphery of the cornea. There exists generally, a hypersecretion of aqueous humor, which not only increases the tension, but secondarily produces a slight dilatation of the pupil. The discoloration of the iris is not always found, and, although the pericorneal injection may be counted as a pathognomonic symptom, it is not always present. The plastic exudations forming synechia, so common in idiopathic iritis, are never found in serous iritis. The characteristic symptom of this disease is the punctured appearance of the posterior surface of the cornea. The little dots can be seen with the ophthalmoscope used for the upright image, but by focal illumination they can be better examined and located. This form of iritis is generally very refractive for treatment, and relapses are very frequent. During my assistantship to Dr. H. Knapp, of New York, I had occasion to examine several cases of this disease, among them, one of the insidious form; without this experience, I think that I would have been deceived by the following case:

Mr. M. P., age twenty-four, of strong constitution, neither smokes nor drinks, states that, about a week ago, he experienced a slight pain about his right supraorbital region, after which he noticed that the sight was blurred in his right eye. No change for the better having taken place during the week, he concluded to consult an oculist. *Stat. pres:* Conjunctiva slightly hyperæmic, *no pericorneal injection;* cornea clear, iris somewhat discolored, (patient states that it had always been of that color); pupil nor-

mal, reacting well to light. While making the ophthalmoscopic examination in the upright image, I noticed a peculiar dotted appearance of the cornea. With the focal illumination I found that these dots were situated on Descemet's membrane, and grouped in a triangular form, the basis directed toward the periphery of the cornea. They were so small however, that I was obliged to center all my attention to discover those situated at the vertex of the triangle. I found the fundus normal; tension was also normal; vision $\frac{20}{100}$; left eye normal, V = $\frac{20}{20}$. The patient stated that he could not bear a bright light with his right eye, and that *sometimes* toward the evening he experienced an uneasy sensation, with *a little* pain over the eyebrow. My mind was made up. The case before me was one of incipient iritis serosa. I instilled a couple of drops of a four-gr. solution of atropia, and was not much surprised to find the pupil very slow in dilating. After repeating the instillations three times the desired effect was obtained. Prescribed atrop. sulph. gr. ij to the ounce of water; calomel, gr. one sixth; three times a day internally. Two days afterward, I saw Mr. P., and found that the pupils had not entirely dilated. The dots on Descemet's membrane were more abundant and larger. No pain had been experienced since the first instillation of atropia. Calomel to be continued, and the atropia to be used, one drop every two hours until the pupil should be fully dilated, then one drop three times a day. Two days afterward, the pupil was fully dilated. From this time improvement continued very rapidly; so much so, that afer six weeks' treatment, I considered the eye cured. The condition as noticed on my record book was, "No pericorneal injection, pupil fully dilated, no pain, very slight haziness of cornea; V = $\frac{20}{40}$." On account of the haziness and a few hardly perceptible dots on the cornea, I advised Mr. P. to continue using his two-gr. solution of atropia, and to still use a protective bandage, but to discontinue the iodide of potash, which he had been taking for about two weeks. I saw no more of him until about two weeks afterward, when he presented himself very much alarmed on account of the severe symptoms which had manifested themselves in his eye. He stated that improvement had continued since I last saw him, until the night previous, when he

was seized with severe pain in the eyeball and brow. The eye now presented a well-marked pericorneal injection. The cornea was hazy; the dots on Descemet's membrane were numerous and large. The details of the fundus could not be made out on account of the haziness of the cornea, the tension, which, during the previous attack had remained normal, had now increased to + 91. I instilled a one per cent. solution of eserine, prescribed a mild cathartic, protective bandage and absolute rest in bed. On the morrow I saw the patient; the pain had entirely subsided, tension had decreased to the normal state, pupil contracted, pericorneal injection well-marked yet. Atropia and warm fomentations, combined with proper hygiene soon brought the eye to its normal condition without any further relapses. The last time I saw the eye the cornea was perfectly clear, pupil normal, retaining the same color, however, that it presented when I first examined the case. No appreciable changes had taken place in the fundus. Vision had improved to about $\frac{20}{20}$. I have lately seen Mr. P.; he informed me that his eye had given him no further trouble.

This case illustrates very well the insidious form of iritis serosa; its long duration and sudden relapses. I have had occasion to treat several similar cases, but in none that I can remember, did I meet with such a lack of iritic symptoms.

ARTICLE V.

A REVIEW OF THE PROGRESS OF MEDICAL EDUCATION IN CHICAGO, WITH SOME SUGGESTIONS FOR ITS ADVANCEMENT.

Read before the Chicago Medical Society, Nov. 8, 1880, by E. INGALS, M.D.

My purpose in this communication is to compare the present standing of medical education in this city with the past; to determine what progress we have made, and to inquire what duties we, as a profession, owe to the future. The present is a favorable time to institute this comparison; for all that has been done in the cause of medical education here has passed under the observation and is fresh in the memory of those who are still on our streets, busy with the everyday activities of life.

I entered Rush Medical College in November, 1845, and graduated February 18, 1847. No literary attainments were then necessary to obtain admission to the class. The requirements for graduation were: A good moral character; age, twenty-one years; three years study of medicine, including two courses of lectures of sixteen weeks each; a satisfactory examination and written thesis. There were six professors. The class of 1846–47 numbered seventy matriculates, or about twelve to each professor, and sixteen, or 22.8 per cent. of the class, graduated. The dissecting room was kept open after the close of the session for such students as desired its use, and members of the faculty were always ready to give private instruction to those who would remain in the city after the lecture term. At that time there was no hospital in the city, and clinical material was scantily supplied by a dispensary in the college building, and such private patients as the professors could bring before the class. Prof. Brainard, especially, was able to present a good number of interesting cases, and such as could be obtained were fully utilized. In this way he enabled the class to see the first surgical operation which was performed in this city under anæsthesia. It was the amputation of a finger, with a portion of the metacarpal bone. Neither Dr. Brainard nor the students knew what the anæsthetic substance was. It was called letheon, and was administered by a dentist, from a bag, as the nitrous oxide gas is now given. The perfect success of the operation elicited applause from the class, that seemed electric to a degree that I have seldom witnessed in a public assembly. This will give a fair idea of the facilities for obtaining medical knowledge in Chicago in 1847, and also what was necessary to get a medical diploma here at that time—subjects that are not always closely related.

The annual announcements of the colleges of this city for the session of 1880–81 are now at hand, and an abstract of their contents should indicate what progress has been made. The Woman's Medical College requires satisfactory proof of the possession of a good moral character and of a good English education, for admission to the class. Applicants who have "certificates of graduation from a high school, or like institution, or a

teacher's certificate from a county superintendent of schools," are received, but when these cannot be furnished, a satisfactory examination by a committee of the faculty is required. The school has thirteen professors; the class for the session of 1879–80 numbered sixty-four non-graduates, or about five to each professor; and ten—15.6 per cent.—graduated. The course of instruction is graded. Requirements for graduation are: Age, 21 years; three years study of medicine, including two courses of lectures of twenty-one weeks each, less ten days vacation during each session, and a satisfactory examination. This indicates an advance for this school of the requirement of good moral character and literary attainments for admission to the class; a lengthening of the lecture term three and a half weeks each session; an addition of seven professors—the number of pupils taught being about the same. Seven and two tenths per cent. less of the class graduated, which indicates greater care in the final examinations.

The Chicago Medical College has a graded course of instruction. Applicants, to be admitted to the class, must have graduated from some literary college, or present certificates from some scientific school or academy, or, in lieu of this, pass a satisfactory examination before a committee of the faculty. Requirements for graduation: Age, twenty-one years; good moral character; three years of medical study, including two courses of lectures of twenty-six weeks each; a satisfactory examination and written thesis. The school has fifteen professors, and the class for the session of 1879–80 numbered 148 non-graduates, or about ten to each professor; and thirty-six, or 24.3 per cent. of the class, graduated. The advance here shown is the requirement of a good English education for admission to the class, a lengthening of the lecture term ten weeks each session, an addition of nine professors—the class being about two and one ninth times larger. One and five tenths per cent. more of the class graduated, which points to less care in the final examinations.

The Rush Medical College admits all to the class who apply, without questioning their literary attainments. Requirements for graduation: Age, twenty-one years, and satisfactory evidence that the candidate possesses a good moral character, and "such

primary education as is clearly requisite for a proper standing with the public and the profession;" three years of medical study, including two courses of lectures of twenty-one weeks each. The school has twelve professors, and the class for the session of 1879–80 numbered 440 non-graduates, or more than thirty-six to each professor, and 147 graduated, or 33.4 per cent. of the class. The advance shown by this school is an addition of six professors—the class being about six and one third times larger than it was thirty-three years before—a lengthening of the lecture term five weeks each session. The rule for graduation that requires "such a primary education as is clearly requisite for a proper standing with the public and the profession," looks towards an advance, but it is indefinite, and seems to stand in the wrong place. To withhold the degree from a student who has demonstrated the possession of sufficient medical knowledge to be worthy of it, because he lacks literary attainments, after he has been permitted to employ his time and incur the necessary expense of two courses of lectures, is so manifestly unjust that I feel sure the rule would never be enforced. The student should be informed of his literary deficiency when he seeks to enter the medical college, instead of when he is about to leave it. Ten and six tenths per cent. more of the class graduated, which indicates less care in the final examinations. Indeed, it is more difficult to discriminate in this particular when the applicants for graduation are many than when they are few.

All these schools have extended the curriculum of teaching; they have a greater abundance of clinical material; they have added a spring session of lectures, and though the instruction is mainly given by those who are not professors, this is a practical prolongation of the college year for such students as will avail themselves of its advantages; but to do this is not essential to graduation; and my mind has been directed in this review to the easiest means of getting a diploma in Chicago, as well as to the broadest opportunities that exist here for obtaining medical knowledge.

There are two classes of medical students: one attend lectures to get knowledge, and for these the diploma is relatively unim-

portant; the other think chiefly of the diploma, and will obtain it in the easiest way possible.

Many things in medicine are taught now that were not taught when I was a student, for many things are known now that were not known then, and the opportunities for obtaining medical knowledge are better than they were; and such students as will remain here and devote four or five years to mastering the text-books, hearing such lectures as profit them, taking private courses on special subjects, attending the clinics, learning anatomy in the dissecting-room and pathology in the dead-house, may qualify themselves to be competent and accomplished physicians. But the three years term of medical study which has always been required here as preliminary to an examination for the degree of Doctor of Medicine, has not been increased, and except in requiring that a larger portion of the three years should be spent in college—viz., three and a half weeks each session by one college, five by another, and ten by a third, and the requirement of a preliminary education to enter the class by two of the colleges—it is in no way more difficult to get a medical diploma in Chicago now than it was a third of a century since. In one respect it is even easier; for these colleges all belong to the Association of American Medical Colleges, and the articles of confederation of this Association provide that the degree may be conferred after but two years and nine months study of medicine. Neither do I understand how more knowledge is to be obtained now than then, except as this is influenced by the time deducted from office instruction to be added to the lecture term, though the field of study is enlarged and the subjects taught are more numerous. We could no more than master the subjects then taught, and had our field of study been enlarged, our work must have been performed in a more superficial manner. If the term of instruction is made short, the best results are reached by applying the time to fundamental branches.

While we make access to the profession as easy now as it was in 1847, in other respects the conditions of society are entirely changed. Then a laborious day of travel across the prairie would only accomplish about forty miles, and the best shelter for the night was a log cabin; now we are transported six or seven

hundred miles in the same time, and take a very comfortable hotel along with us. Chicago then had less than 17,000 people; settlements were small and scattered. Everybody was poor; there was a great deal of sickness, and a scarcity of medical practitioners. These abnormal conditions had to be met by temporary expedients. The grade of medical education was placed low, but I think as high as was then wise or practicable. Now our surroundings are changed. We have a large and comparatively dense population, abundant wealth, a superfluity of medical practitioners, while improved machinery and accumulated capital give us leisure so that we can afford to those who are studying the art of healing the sick, time and money enough to enable them to perfect themselves in it to a reasonable degree before they enter upon its practice. Indeed, society cannot afford to do less than this, for the difference between the attendance on the sick of an incompetent and a competent physician, is the difference between death and life, pain and its absence, poverty and plenty. Few misfortunes impoverish more than sickness; for it both increases the consumption of wealth and checks its production; and this consideration might justify the government in prescribing the qualifications that medical practitioners should possess, and warrant it in extending aid to medical as it does to primary education.

No student should be received into a medical college who does not possess sufficient education to admit him to a literary college of respectable rank; and it would be better that he should be a graduate of such a college; for when he enters a literary college he is but commencing his literary cultivation, but when he enters the medical college, he is supposed to have completed all special literary pursuits. The mental discipline which such training gives would enable the student more perfectly to assimilate the medical instruction presented to him; his reasoning faculties would be strengthened, his powers of observation made more acute; he would become a better physician, have more influence in society, and help to exalt the rank of the profession in public esteem. It is more than a century since Blackstone wrote: "A long course of reading and study must form the physician. The gentlemen of the faculty of physic, beyond others, remarkably

deserve a character of general and extensive knowledge." Can any modern Blackstone justly pay us this compliment to-day? The course of instruction should be graded. This separates the advanced student from those who are commencing the study, and students who have acquired a good deal of medical knowledge certainly require different instruction from those who have but little; it relieves the mind from the distraction incident to the pursuit of too many studies at the same time, and enables the student to get some knowledge of the fundamental branches before entering upon those that are based upon them. At least four years study, including attendance on three regular sessions of lectures of not less than eight months each, should be required before a student is admitted to an examination for graduation.

No person who has studied medicine but three years can be properly qualified to enter the chamber of the sick, to assume the responsibility of dealing with the intricate problems of disease. At the best, the physician has a large part of his professional knowledge to acquire after he has graduated, and a deficient literary and medical education leaves him unfitted to profit by his bedside observations after he has entered upon practice, and his patients have added to the perils of sickness the danger of being prescribed for by a nominal physician, who in their sick chambers is studying his profession in a blind way, without an instructor. Four years study, including three sessions of lectures of eight months each, gives one-half the period of study to college instruction, and the greater the part of the period of pupilage that is passed in the college the better.

The common experience of a student in a physician's office is that he has the use of a medical library, with some general directions of the order of his reading; but he receives little personal instruction. A physician in active practice will seldom find time or inclination for more than this. A medical college should have a large number of professors, in order to divide the curriculum of teaching into small sections, which will enable each professor more thoroughly to qualify himself to teach the subjects assigned him. There are many things in medicine that cannot be properly taught to large classes. The signs of disease revealed by a physical exploration of the body, the manipulations required in

the practice of ophthalmology, otology, laryngology, gynæcology, many surgical operations, the use of instruments, the application of dressings, and the like, may be *described* to a large class, but they cannot be *taught* to a large class. This is as impossible as it would be to teach the art of making horse-shoes by didactic lectures on the craft of the blacksmith. Yet no one is fitted to enter upon general practice who has not received careful instruction on most of these subjects. Another benefit of a subdivision of the class is that this brings each of its members into nearer personal relations to his teacher, which is often a great advantage aside from the medical instruction received, for the professor should be a model on which the student may mold his character, and principles thus imparted may favorably influence his entire subsequent life.

The examinations for the degree should be rigid, and if there is doubt of the competency of the applicant, he should be rejected. This is the more necessary as the principal evidence usually required as proof that the student has attended two courses of lectures, is that he holds the tickets for two courses of lectures. He may absent himself from the lectures, or he may take out the tickets near the close of the session, and yet be admitted to the examinations for graduation the same as if he had heard all the lectures. Sometimes, too, faculties are imposed upon by false certificates of study; but care in the examinations would detect these frauds. The percentage of those examined for the degree who are rejected is so small, that it serves as a practical invitation to all who have complied with certain easy formalities, to apply for it. The medical diploma should be conclusive evidence that its possessor is a learned person, but, as conferred by many schools, it cannot be accepted as sufficient proof.

At a largely attended session of the annual meeting of the Illinois State Medical Society, for the year 1879, the following resolutions were offered:

"*Resolved*, 1st, that the Illinois State Medical Society requests of all regular medical colleges that they institute preliminary examinations for students who apply for admission to their

classes, and only admit such as have, at least, a thorough English education.

"*Resolved*, 2d, that the annual sessions of lectures by the regular faculties should not be of shorter duration than six months.

"*Resolved*, 3d, that all students should be required to study medicine five years, and attend three full annual sessions of lectures, before they are admitted to examination for the degree of Doctor of Medicine."

The first two resolutions were adopted unanimously, and the last with but few negative votes.

At the annual meeting of the alumni of the Rush Medical College for 1879, the following was ordered to be printed in the transactions, but action on it was postponed until the next annual meeting, the purpose of the postponement being that the subject might be well considered before action on it was taken:

"The Alumni of Rush Medical College desire to express, in a formal and public manner, the affectionate regard we entertain for our Alma Mater, our pride in her past history, and confident hopes for her increased usefulness in the future. We hold that her supreme duty to the public, which has always accorded her a generous support, demands that her first aim and object should be to aid in exalting the attainments of the medical profession, and by so doing to increase its usefulness, power and respectability. As a mode of accomplishing these results, we would respectfully offer to the board of trustees of the college the following suggestions:

First. To increase the regular term of college instruction to a period of not less than nine months. *Second.* To require attendance on three full terms of medical lectures as a prerequisite for admission to examination for the degree of Doctor of Medicine. *Third.* To institute preliminary examinations for students who apply for matriculation to the school, and admit only such as have, at least, a thorough English education."

I judge that 200 of the alumni were present at the annual meeting of 1880, when these resolutions were adopted without a dissenting voice. The action of these organizations, as above expressed, is doubtless in harmony with the individual opinions

of most of the members of the profession. The medical education of physicians in Illinois is mainly left to the profession, and a faithful performance of the work is a duty we owe to society. This duty does not rest alone on our medical schools, but is shared with them by the entire profession, and it is this which causes me to bring the subject before this society for its considertion. The review I have made does not show that the institutions of medical learning in this city have assumed the advanced position the profession seems to demand. Though something has been accomplished, it is less than we had hoped, and to my mind the promise of the immediate future is not encouraging.

The last announcement of Rush Medical College contains this notice: "On and after March 1, 1883, all applicants for admission to the college will be examined as follows: In the elements of physical science as taught in the common school text-books; in arithmetic to cube root." Is it possible that this rule is looked upon as an advanced requirement? and if so, why is its operation postponed three years? Is so much time necessary to enable medical students to prepare for the ordeal of an examination that is limited by the text-books of our common schools? and do we expect our profession to be accorded a place among those recognized as learned, while we confer its honors and impose its duties on persons whose literary attainments are so low that they are unable to "cipher to cube root"? Is this a sufficient preparation for those whose daily avocations require a knowledge of such subtle and intricate subjects as chemistry, histology, physiology, pathology, whose prescriptions are to be written in a classical language, and who are to uphold the character of our profession in their associations with cultivated people?

I wish it was as easy to make the grade of the profession higher as it is to demonstrate that it is now too low. I have no definite plan of how this purpose may be effected, but will offer some suggestions that I hope you may supplement by others. As individual members of the profession, and associated in our medical societies, we should continue the agitation of the subject. We should bring every influence we can to bear on those who have the immediate conduct and control of our medical schools.

We should educate the profession and the public up to a higher standard. Some schools have already been influenced in their action on this subject by an enlightened wisdom, and they merit our highest commendation.

But whatever we may accomplish with the regular schools, we can have little hope that our influence will affect those that we do not recognize, and these commission practitioners whose incompetency people learn through suffering and death. Such schools make fiat doctors as it is proposed to make fiat money, by the printing press, and each are of about equal value for the purposes for which doctors and money were instituted. The action of the schools in this matter is perhaps restrained by the fear that an increase of requirements would lessen the number of students, and consequently the amount received from fees, and give to the schools an appearance of diminished prosperity.

But the schools should learn that their standing will be fixed, not by the number, but by the acquirements of their graduates. If the requirements were much raised, the number annually graduated would certainly be less; but if by this means the number could be reduced one-half, it would be a great gain, not only to the profession, but to society, and also to those who should be thus turned away from an employment for which they are not fitted by their attainments. But neither the aggregate of the fees nor the numbers in the classes would be so much reduced, for the students would remain longer under instruction. But even if the professors' fees should be reduced, we must keep in mind that medical schools ought to be conducted in the interests of students and of the general public, rather than in the exclusive interests of the limited number of persons who give instruction in them. The latter course would be like establishing common schools for the pecuniary and other advantages they might afford to the teachers, instead of for the purpose of educating children and benefiting society. The object in view could perhaps be promoted by legislation. For example, laws might be enacted that after some time in the not distant future, no person who had not then been admitted to practice in this State, should be allowed to commence the practice here unless he was a graduate of a medical college that required four years of medical study, three annual

sessions of medical lectures of not less than eight months each, laboratory work, practical anatomy, and hospital instruction, as a prerequisite for graduation, and the possession of a good English education for admission to the class. It would be well, too, if legal provision could be made for a State examining board, whose duty it should be to examine all applicants for medical graduation in the State, so that an equal thoroughness of teaching should be exacted of all our schools. These examinations might include materia medica, but exclude therapeutics, which would avoid all questions growing out of special systems of practice. The colleges should confer the degree on the recommendation of this board.

If the suggestions I have made are not attainable, then a good influence on the cause of medical education might be exerted by establishing a new medical college in Chicago, on a basis similar to what is recommended above. Should this be thought best, such an enterprise is practicable. Other advantages than those growing out of increased requirements for graduation might result from establishing another school in this city, for the classes that annually assemble here, even now, are too large to be as well taught as they could be if they were smaller; and as our population increases—other things remaining the same—the number of students will also increase. Chicago is as well suited to become a great medical center as it is to become a great manufacturing and commercial center. By its railroad ramifications it will be easily accessible to a large and wealthy population; its climate is favorable for health and study; it will afford abundant material for clinics and dissection; the necessary cost of living here will be small; the city will contain numerous objects of interest to invite students to it; and these factors will cause it to be the residence of many skillful practitioners and able teachers. We should lay the foundations here as we would that those who come after us should build.

Clinical Reports.

Notes from Private Practice.

Article VI.

Case of Cancer of the Breast.—Recovery After Removal.

In May, 1862, I amputated a cancerous breast for Mrs. Wm. Morehead, of Bellville, Dane county, Wisconsin. She was a very large and robust woman, aged forty-seven, the mother of one child, and appeared to be free from cancerous cachexia. Her breast was very large, and I cut widely of the disease, so as to extirpate any tissues that might possibly be implicated. Bleeding vessels were secured and the edges of the incision brought together by sutures, the whole being supported by a compress and bandage. The wound healed by the first intention, and the rapid recovery seemed complete.

In about two years after the operation, a scirrhus tumor about the size of a butternut appeared on the lower edge of the cicatrix and directly below the point where the center of the breast had been removed. I cut it out, brought the edges of the incision together by sutures, and applied a light compress and bandage. In a few days erysipelas appeared and spread rapidly, but was soon controlled, after which the wound healed quickly. From that time there was no recurrence of the cancerous disease, and Mrs. M. enjoyed good health. Her death, which occurred in May, 1880, was caused by umbilical hernia, eighteen years after the first and nearly sixteen years after the second operation.

The breast is preserved in alcohol. Some of the cellulo-adipose tissue, has become detached, and the breast appears to be much smaller than when first removed.

Wm. H. Fox.

Oregon, Dane Co., Wis.

Domestic Correspondence.

ARTICLE VII.

BOSTON LETTER.

Messrs. Editors:

We are in the midst of a noble rain storm. The water falls with an abundance so copious as to be a cause for gladness and gratitude. I think I am not mistaken in saying that we have not enjoyed such a rain for several months. Throughout New England, water has been almost a luxury since July last. In Boston those who are at all particular as to the quality of their drinking water, buy for the table, Belmont, Apollinaris, Poland or some other spring water. The Cochituate has a vile flavor, and, while apparently clear and bright, leaves, upon a properly constructed filter, matters too numerous to mention, and upon the palate a taste which reminds one of old paint pots; sometimes of the hold of a fishing smack. What share, if any, such water may have in current illness, I am unable to say. We know that the disagreeable quality of the water is due to the fact that the lakes which supply us are very low in quantity, and, doubtless, as we approach the bottom of a lake, the less pure do we find the water. Nevertheless, I cannot learn that any class of diseases which might be increased by impure water is notably prominent. But we need rain in abundance. If it should not come before farmers plant in the spring, our crops will suffer and, it may be, when the tonic of winter weather is gone, that we shall begin to see the effects of unwholesome water upon the people. Moreover, we have had the unique experience of enjoying a moderate temperature while cities far to the south of us, Charleston, Savannah, etc., have suffered an unknown frigidity. Something

ails New England weather. For the past six months it has been positively unnatural. Vennor, the new prophet, is made responsible for it all.

The abuse and over-use of dispensaries, form just now a subject which is being warmly discussed by our medical societies. Opinions present a most curious unlikeness. Some physicians favor a great stringency and the appointment of salaried inspectors whose duty shall be that of discovering how able or unable patients may be to pay for advice. Others, notably the specialists, think if anything be done to decrease the number of patients at dispensaries, whose clinical material is used for purposes of instruction, medical education will suffer. These are the two extremes. No definite step has been taken to modify a trouble which, with us at least, has assumed a very serious and abnormal shape.

A new annoyance has appeared in the form of an abortion called the College of Physicians and Surgeons of Boston. The chief demon is a vendor of masonic paraphernalia, who has voted himself a doctor, and who apparently intends to try the Buchanan curriculum. It is a legitimate outgrowth of the failure of the mismanaged medical bill of last winter, which, while as necessary as pure water, was sprung upon us in a form too imperfect for success. At the outset the impulse of every right-minded physician was to indorse it, but upon sober second thought and candid consideration, it was found that the provisions of the bill were full of errors, and it was dropped. Thereupon the quack taketh with him seven other spirits more wicked than himself, * * and the last state of that man is worse than the first. We did not even scotch the snake. Consequently, bogus medicine develops a cheap school. Boldness becomes effrontery. It would be a strange condition of things if diplomas were to be obtained in Boston for mere money. But as regards quackery, we are in that helpless state of which the less said the better.

The feeling of annoyance which naturally arises when this subject is mentioned, suggests another matter, of which, on the contrary, too much cannot be said: You will recall the series of Health Primers published by Lindsay & Blakiston, of Philadelphia. The stereotype plates of six of these were sold some

months ago by Mr. Blakiston (who now holds exclusive possessorship of these books) to Ward & Lock, a firm of English publishers. In concluding the sale Mr. Blakiston especially stipulated that the names of the editor of the series, Dr. W. W. Keen, and also of the authors, should all appear in the English reprints. The result was that this high minded firm of Ward & Lock issued the books *anonymously* under the title of "Ward & Lock's Long Life Series, accurately written and carefully edited by distinguished members of the medical profession;" leaving it to be inferred that the authors were British. In reply to Mr. Blakiston's remonstrance, these noble scions of Britannia replied that they had a perfect right to the course they had taken, and moreover, that "*so many changes* were requisite to adapt the books to the English market, that it *would have been unjust to use the authors' names!*" These so-called changes were merely necessary to cover American allusions and were not only unworthy of mention, but had no bearing whatever upon the intrinsic character of the primers. This is not the first offense of this redoubtable firm. It is said that John Habberton, learning that "Helen's Babies" had a large English sale without copyright, went into Canada and there wrote the last chapter of his next book, thus securing both English and American copyright. Whereupon, Messrs. Ward & Lock had a new chapter witten in the place of Habberton's last chapter, and then published the book in England in spite of the copyright. Comment upon such trickiness merely vexes one without producing the slightest alteration in the moral quality of sharpers like these Englishmen.

Dr. John Homans, on Monday evening last, read before the Boston Society for Medical Improvement, the history of twenty-five cases of ovariotomy upon which he has operated within twelve months, with the remarkable result of twenty-three recoveries and only two deaths, these undoubtedly being hastened by the extremely sultry weather of last summer, at which time they occurred. One of the cases of recovery was rendered unique by the fact that subsequent to the operation the chest was found to contain fluid. By aspiration forty ounces of fluid were removed. This in no way retarded the convalescence.

In a second case both ovaries were removed with the tumor.

In spite of this menstruation reappeared within a short time after recovery and has regularly continued. As Dr. Homans remarked, this phenomenon has a bearing on the Battey operation. These cases were all treated antiseptically, and Dr. Homans, who seems to possess the peculiar qualifications which apparently are a *sine quâ non* in successful ovariotomy, has more than reason to be proud of his remarkable and brilliant results. The immense strides which this operation has taken within a very few years, and the almost absolute certainty of its success in the hands of skilled and experienced men, is very significant. I was told last night that not longer than ten years ago, Dr. Homans himself positively refused to do ovariotomy because of his lack of faith in its safety. To-day, his success has given him a well-won fame. He is a courageous operator, very particular as to details, especially thorough in sponging and cleansing the abdominal cavity, and unusually careful in the after-treatment. He attributes his good fortune in operation to Listerism. I may add that he never uses catgut ligatures, but confines himself strictly to carbolized silk which he applies to the pedicle behind the clamp, which he uses only temporarily, removing it after the ligature is firmly in place.

You will have noticed that Dr. George B. Shattuck has been appointed editor of the *Boston Medical and Surgical Journal*, *vice* Dr. J. C. Warren, who resigned after giving the *Journal* a fresh life, unusual vigor and a handsome form and dress. Those who know Dr. Shattuck do not doubt that the development of the *Journal* will steadily continue under his influence. Dr. James C. White, to whose unusually able leadership much of the recent success of the Boston Society for Medical Improvement is due, has declined re-nomination as president, much to the hearty regret of the Society.

BOSTON, January 12, 1881.

ARTICLE VIII.

NEW YORK, Jan. 3, 1881.

EDITORS JOURNAL AND EXAMINER:

Having said farewell for a few weeks to my pleasant Indiana home, and come East for the purpose of visiting the medical schools and hospitals of New York, Philadelphia, and Boston, I thought a letter of gossip from this city (and perhaps at another time from the other two as well), might not be without interest to your readers, many of whom can, no doubt, recall from the long ago pleasant memories of the winter months passed in one of these places, at the commencement of their medical career.

The three colleges here seem to be in an equally prosperous condition, each of them having over five hundred matriculants. At the College of Physicians and Surgeons, instead of a spring session, and a succeeding winter session of five months in length, which hitherto have made up the collegiate year, this now consists of a single session of somewhat over seven months in length. Bellevue has adopted the three years course, with final examinations in elementary branches at the end of the first and of the second session. The collegiate year at the University is divided into three sessions, the spring, preliminary winter, and regular winter session, the whole embracing a period of eight and a half months attendance at the regular winter session being obligatory.

Father Time has dealt kindly with most of the older members of the different faculties. Alonzo Clark (now president), as much a favorite with the students as ever, finds it less tiresome to deliver his lectures, seated, although his voice shows no signs of weakening. Alfred Post still conducts the clinic at the University, and operates with as steady a hand as of yore; while James R. Wood, having lost none of his daring and dexterity, fills the large amphitheater at Bellevue Hospital with students from all the colleges, who come together Saturday afternoons to attend his surgical clinics; and Lewis A. Sayre, whom many think gruff and unsympathetic, yet whose friends know the warm heart beating beneath the rough exterior, has for his audience,

many practitioners from this and neighboring cities. At one of his clinics, having shown a case of hip-joint disease, he said: "Such cases as these are often attributed to scrofula, and I am tired of hearing everything laid at its door. Let me cite a case bearing on this point. I was called to see a lady, recently confined, who was suffering from some trouble with both hip-joints. It had been necessary to use the forceps in delivering the child, and the assistants holding the leg on either side, had caused such extreme abduction as to produce the affection of the hip-joints for which I was called in consultation. While explaining the modus operandi to the physician, the nurse, who was dressing the child, having become interested in my remarks, had taken the child by the legs and was making extreme abduction. I caught the little one's legs together, and said to the doctor, 'if this child shows no bad effects from that proceeding, I shall be surprised.' Not long afterwards, the child was brought to me with morbus coxarius—of scrofulous origin, of course. The mother had it, and now the child has it."

The elder Flint, though looking older than when I saw him last, is evidently in the best of health. H. B. Sands, now occupies the chair of Practical Surgery at the college of Physicians and Surgeons, and ranks among the most skillful surgeons in the city.

I have had the pleasure of witnessing several ovariotomies done by T. Gaillard Thomas, at the Woman's Hospital. In one of these the time occupied from the first incision, to the twisting of the last suture, was exactly fifteen minutes. The tumor was a large multilocular cyst, with a long pedicle, and no strong adhesions. The incision in the abdominal walls was made low down in the median line, and was not over three inches in length. Dr. Thomas said, "Every inch that the incision is extended toward the diaphragm, adds immensely to the dangers of the operation." The operation was done antiseptically, Dr. Thomas being a true disciple of Lister. James L. Little, formerly connected with the college of Physicians and Surgeons, is now Clinical Professor of Surgery at the University. At his last clinic he cut for stone, in a little boy about four years old, doing the median operation. Dr. Little stated that he had performed lith-

otomy thirty-six times, on patients old and young, and had removed some very large stones, but of these thirty-six cases only two had died, and their death was not directly attributable to the operation. He used the median operation, and thinks his results were as good, if not better, than would have been obtained from any other method.

At St. Luke's Hospital I saw a very interesting operation by Thomas T. Sabine, a detailed report of which will probably appear in the *American Journal of Medical Sciences*. A man, falling from a scaffold thirty feet high, alighted on his feet, and fractured the astragalus in the right tarsus. The fracture was not discovered at the time, but the man was treated for simple sprain of the ankle-joint. When he entered the hospital some months later, the foot was in a state of talipes varus, but the motions of the joint were quite good. After consulting with Drs. Sands, Mason, Wier, Post, Stimson, and others, Dr. Sabine decided to divide the tibia and fibula subcutaneously, at the junction of the lower and middle thirds, which he did very dexterously, losing but little blood. He then abducted the lower fragment to a sufficient angle, to bring the sole of the foot on a line at right angle with the axis of the leg, where he secured it by means of the plaster-of-Paris splint, strengthened by a strip of iron on either side. The interval between the ends of the tibia, at the point of division, was about three-fourths of an inch. Dr. Bull did a similar operation at the same hospital, a few weeks since, and the result was all that could be hoped for.

I was at the Woman's Hospital on one of Dr. Emmett's operating days, and, among other operations, saw him close a vesico-vaginal fistula. Completing the operation, he said: "Gentlemen, the reason why so many of these comparatively simple operations fail, is on account of the wires being twisted too tightly, and so quickly cutting their way out. Be careful, before commencing to twist, to shoulder or bend each wire at a point directly over the line of apposition; then, by bending both wires together, at nearly a right angle to this line, you can twist without danger of constricting the tender tissues." Dr. Edmunds also operated on a girl fourteen years old, for the formation of an urethra. Some surgeon, unknown to fame, in trying to remove a

large calculus from this girl's bladder by dilating the urethra, had torn a rent from a point in the base of the bladder to the external meatus. So much time had elapsed, that not a sign of the position occupied by the urethra remained. The doctor said he would not attempt to close the whole rent at one sitting, but would first make the urethra, and later, close the opening in the base of the bladder. Dr. Emmett has had good results in this class of cases. He makes up for the lack of sphincter muscles, by extending the new urethra up in front of the symphysis, bringing the external meatus fully an inch farther forward than normal. This makes a urethra having a shape similar to the spout of a tea-pot.

Lister's method is the fashion here, but there is one professor who does not hesitate to express his views on the subject, notwithstanding they are not in accord with those of the majority of his colleagues. Alexander B. Mott, said to his class at Bellevue recently, "For twenty years I have been holding surgical clinics in this college, and feel confident that the results attending my operations, will compare favorably with those obtained by what is termed 'antiseptic surgery.' The great majority of you will settle in small places, where you would not find the necessary paraphernalia, and could not afford it if you did; and you will find by doing your work neatly, and using plenty of clean water, that ninety-nine out of every hundred of your surgical cases will do as well as you could expect from any treatment."

In closing, let me say a word or two regarding a lecture I attended a few evenings since. Mr. Henry Bergh addressed the citizens of this city on the subject of "Vivisection." That Mr. Bergh has done a good work in the prevention of cruelty to animals, no one will gainsay, but when he comes before an enlightened audience with such twaddle as he presented on this occasion, one not only perceives the gross ignorance of the man, but is led to doubt his soundness of mind. Hear him: "Of what use is vivisection? A friend of mine had a beautiful little daughter lying dangerously sick with diphtheria. The attending physician called in consultation a well-known physiologist of this city, who advised making an opening into the windpipe. The dear little girl screamed aloud at the horrible suggestion, and said: 'Father,

they will kill me!' The operation was done; the child died, and her infantile prophecy was fulfilled. Had vivisection taught this man anything?" The argument is unanswerable. Comment is useless.

Recall to mind those eminent physiologists, whose arduous labors and patient researches have added so much to the sum of earthly happiness; whose whole lives were spent in the interest of their fellow men, and who went to their rest at last, recompensed by the thought of the good they had accomplished. And now listen to the tribute of respect paid them and their followers, by this champion of the brute creation. "If there is a hell, and hell-fires are burning, I am sure these men will feel their torments to the utmost extent." The long continued hissing that greeted this expression, must have startled somewhat this noble-hearted man, though we would not expect one capable of conceiving such a fiendish thought to be much disturbed. These extracts will suffice to illustrate the method by which Mr. Bergh hopes to convince the legislature of this State of the uselessness and wickedness of vivisection.

GEO. B. PRATT, M.D.

ARTICLE IX.

GREENWOOD, WIS., Dec. 28, 1880.

EDITORS JOURNAL AND EXAMINER,

Dear Sirs:—I have noticed, lately, two articles in your journal on asthma, and as I have had some experience with that stubborn complaint, I wish to offer a suggestion in its treatment, which has been of service to me in a good many cases, and has indeed never failed being of some benefit to my patients.

It is the use of jaborandi. I saw some time since an article in which it was recommended for asthma. At that time I was using it (as I also was giving all the "new remedies" a trial) in my general practice. I happened to prescribe it in one case (for other symptoms), where the patient had suffered for years with asthma. She told me as she was becoming convalescent, that she believed I was curing her of her asthma. Knowing how freely

it excites mucous secretions, also having noticed its relaxing effect on involuntary muscular fiber (for I have used it in colic and even for tenesmus of dysentery), I concluded it must be the jaborandi she had taken, that had produced the good effect in her case. I continued its use, making almost a complete cure. Since then I have treated about twenty patients with *this alone*, that number being all the asthmatic patients within about fifty miles of me; and not one has it failed to help. I give 4-drop doses, fluid extract, middle of forenoon, middle of afternoon, at about 7 o'clock p. m., and 8 or 10 drops at bedtime. Should these doses produce a very free flow of saliva, then I give a little less, but *follow it up faithfully* four times a day, even repeating the evening dose in the night, should a paroxysm come on.

Give this a trial, fellow practitioners, and let us hear, through the JOURNAL, your success with it. (Of course, in anæmic cases I gave constitutional treatment, chalybeates, etc., in addition.) I will respond promptly to any personal letter from regular physicians on this subject, for I am more than positive of the good results it has given me.

H. J. THOMAS, M.D.

ARTICLE X.

BLOOMINGTON, ILL., Jan. 12, 1881.

The members of the Illinois State Medical Society are hereby requested to report to me or to Dr. G. W. Alvin, or to Dr. E. Ingals, the name of any member of our society who has died during the last year, together with such biography as they may be able to furnish.

L. F. WORRELL,

Chairman of the Committee on Necrology.

Society Reports.

ARTICLE XI.

MICHIGAN STATE BOARD OF HEALTH. Reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER.

At the regular quarterly meeting of this board held on Tuesday, January 11, 1881, at its office in Lansing, the following members were present: R. C. Kedzie, M.D., president, of Lansing; Hon. Le Roy Parker, of Flint; Rev. D. C. Jacokes, D. D., of Pontiac; John H. Kellogg, M.D., of Battle Creek, and Henry B. Baker, M.D., secretary.

VENTILATION.

Rev. Dr. Jacokes, committee on ventilation, reported some experiments which showed that through registers of equal size, one at the top and the other at the bottom of the room, the velocity of the upper current of air outward was greater than at the lower register. When the ventilation was from the bottom only, the temperature of the room was higher than when the ventilation was from both top and bottom registers. These experiments, he claims, demonstrate that ventilation should be from the bottom in this climate in winter.

Dr. Kedzie reported the following experiment, which seems to show the same fact: He took a glass tube thirty inches long having a thermometer in the lower end. When the tube was closed and the upper end heated to 750° F., the thermometer rose but one degree in an hour; the lower end of the tube being opened and air being drawn from it through the tube, the same heat being applied at the upper end, raised the thermometer below, over 100° in one minute.

Dr. Kedzie stated that in conversation with the newly elected governor, he had seemed to appreciate the work done by this board, and, in his message to the legislature had recommended an additional appropriation of $2,000 for the use of the board.

LAWS DESIGNED TO PREVENT ACCIDENTS.

Mr. Parker, committee on legislation in the interests of public health, reported progress in the careful study of the laws relating to punishment for carelessness causing accidents, such as the falling of the "grand stand" at Adrian, and said in his opinion the laws are stringent enough now, but the sentiment of the people does not hold a man guilty of murder through an act of negligence. There was no law, however, requiring expert inspection of public buildings constructed or in course of construction. Mr. Parker also reported on a proposed system of

INSPECTION OF STEAMBOATS

and other sailing vessels on our many inland lakes and streams, at summer resorts, etc. He had prepared a bill providing for such State inspection, and he was requested to take measures to have the bill presented to the legislature.

THE WORK OF THE OFFICE.

The secretary's quarterly report of work, mentioned the preparation of diagrams and other labor in preparing and printing the report of the board for 1880, and similar work on two volumes of vital statistics; the distribution of documents published by the board, and of blanks for return reports; and preparations for the sanitary convention to be held, under the auspices of the board; 553 communications have been written during the quarter.

ADULTERATION OF SUGARS.

The secretary reported that he had collected samples of sugars and syrups from the leading dealers in the city, and had received from Prof. S. P. Sharles, of Boston, the result of his analyses, which showed that the sugars were mostly not adulterated, and but two out of ten of the syrups. It is due to the dealers to

state that those found to be adulterated were so sold by them, namely, as "corn sugar" syrups, "glucose" syrups, etc.

DIPHTHERIA.

Dr. Kedzie mentioned a horrible superstition prevalent in Russia, under which a wafer is put into the mouth of a child suffering with the disease, and then into the mouth of a well child, with the idea that it is a protection against the disease. As it is a communicable disease, it would be difficult to devise a more certain mode of spreading it.

POISONOUS JELLY.

A sample of apple jelly was sent to the secretary with the statement that eating of the jelly had caused the sickness of a large family. Dr. Kedzie had analyzed it and found three grains of sulphate of zinc to each ounce of the jelly. It was probably in the form of malate of zinc, formed by the action of the acid of the fruit on the galvanized iron vessel in which it was boiled. If this was the fact, it illustrated the danger of using such vessels for such purposes.

YELLOWS IN PEACHES.

Dr. Kedzie reported an examination of peaches affected with the yellow. They were of fine appearance, rather red, especially about the pit. The meat was watery and decomposed rapidly. Chemical analysis showed excess of water and deficiency of sugar and jelly-forming material. He read letters from some who thought eating the peaches was not injurious to the health, and from others who stated the facts of sickness in repeated instances, after the eating of such peaches.

"HOG CHOLERA."

Dr. Baker made a report as special committee to study the relations between the prevalence of "hog cholera" and the public health. His report included a statement of his trip to the southwestern part of the State where the disease prevailed, and numerous letters from farmers, physicians, veterinarians; among the latter Prof. Law, Prof. Klebe and Drs. Detness and Salnon.

A letter from Dr. Jerome, of Saginaw, stated that he saw hogs suffering with the disease, who were unable to go up the inclined plane at the slaughter-houses in Chicago, killed and made into lard, and stamped with a fancy brand. In this same connection, Dr. Baker spoke of

LARD WHICH CAUSED SEVERE SICKNESS

in a family in Lansing. A sample of the lard had been microscopically examined by Dr. Detmers, of Chicago, who sent drawings of the organisms he found in it, stating that they were the same as he had found to be the contagious principle in "hog cholera," sometimes called "swine plague." He also read a letter from Dr. Marshall of Lansing, which said he had examined a a sample of the lard in which the "fried-cakes" (which caused the sickness) were cooked, and had found the same organisms to be present. Dr. Baker also read a part of a letter from Prof. Klebs, of Prague, Austria, relating to the same subject. Prof. Klebs has made a special study of such subjects, and claims to have found the organism which is the specific cause of typhoid fever. He does not think hog cholera to be the same as typhoid fever, but would like material with which he could carry on a comparative study.

A vote of thanks was extended to those citizens who had labored so hard to make the

SANITARY CONVENTION AT FLINT

a success. The convention will be held on Jan. 25th and 26th, 1881.

Dr. Baker stated that

CONTAGIOUS DISEASES PREVAIL MOST WHERE

it was noticable that the local authorities paid little or no attention to the laws requiring the appointment of a health officer, and communication with this board.

The board adjourned to meet at Flint, January 25, 1881.

Reviews and Book Notices.

ARTICLE XII.—HEALTH AND HEALTHY HOMES: A GUIDE TO DOMESTIC HYGIENE. By George Wilson, M.A., M.D., Medical Officer of Health for Mid-Warwickshire Sanitary District, and author of "Handbook of Hygiene and Sanitary Science." With notes and additions by J. G. Richardson, M.D., Professor of Hygiene in the University of Pennsylvania; 12mo., pp. 314, cloth, $1.50. Philadelphia: Presley Blakiston; 1880.

Considering its size, this is a well-digested and complete treatise of hygiene. It is tersely written, contains none but the most accurate views and facts related to diseases, and will prove a great aid to the public in general, and to medical students especially. Several important points are well established in this work: the certainty of the prevention of diseases through sanitary measures; the prolongation of human life, as a necessary result of the same; and the extinction of some dreadful epidemic diseases which used to decimate the human race almost every decade, some centuries ago.

The physiology of the human body; the causes of disease, among which hereditary transmission and causes induced by the individual himself, and sanitary precautions, are all treated in a scientific manner. But the reader will soon perceive that this is the *résumé* of a larger work, and devoid of anecdotes and pleasant digressions, which would make its perusal less fatiguing. The conclusion terminates with this peculiar remark:

"Then, too, it has to be pointed out that so long as medical practitioners are paid solely for their services in attending on cases of illness, it is manifestly not to their interest, from a purely monetary point of view, to assist in the prevention of

disease, because if prevention means anything at all, it certainly implies that the more effectually the causes of disease are removed, and precautionary measures are carried out, the less numerous ought patients to become, and the sick-rate and death-rate will both be lowered. It is true that medical men, with the noble disinterestedness which characterizes the profession, are seldom lax in doing all they can to prevent the spread of disease; but there is no disguising the fact that in many quarters there is appearing on the surface a growing antagonism between medical practitioners and sanitary authorities, which is very much to be regretted. All this might be obviated if the public could be persuaded that it would be to their ultimate advantage to pay the medical attendant a liberal allowance to conserve the health of the household."

The reviewer thinks the remark offensive for honest physicians. The antagonism referred to exists, but depends on personal contentions, places secured through political influences, the election of ignorant or over-anxious officers, and other causes, rather than on the desire to legally murder. H. D. V.

ARTICLE XIII.—THE PRACTITIONER'S HANDBOOK OF TREATMENT, OR PRINCIPLES OF THERAPEUTICS. By J. Milner Fothergill, Member of the Royal College of Physicians of London; Assistant Physician to the City of London Hospital for Diseases of the Chest, and to the West London Hospital, etc., etc. Second American, from the second London edition, enlarged; pp. 641.

The favorable reception of two large editions of this work in England and America, proves its acceptability to the profession. Its aim is to supply a digest of the general principles of therapeutics, to arrange the well-known facts of practice together with the explanations furnished by pathological research and physiological inquiry, in such form that the treatment of each individual case becomes an intelligent and rational procedure. This difficult task the writer accomplishes in admirable style, though no attempt is made to collect all the information possible or to enumerate all the articles of the pharmacopœia. The work comprises twenty-four chapters in which the diseases peculiar to each phy-

siological system are discussed as to pathology and the appropriate therapeutical treatment suggested.

The contents of the seventh chapter, on Growth and Decay; of the twelfth, on Diatheses and Cachexia; of the fifteenth, on the Respiratory System; the twenty-second, on Public and Private Hygiene, are especially worthy of mention and the concluding twenty-fourth chapter, entitled The Medical Man at the Bedside, in which the author quotes largely from Prof. Austin Flint's "Clinical Medicine," will be of special value to the young practitioner, and its careful perusal will save his incautious steps from many a humiliating stumble.

The book is valuable in that it is suggestive and stimulates the reader's own therapeutical knowledge, and though an occasional view of the author will be found at variance with those of the majority of American practitioners; as for instance, the administration of atropia in doses that seem dangerously large, and the advice not to withhold it when the atropine phenomena appear, which we fancy few patients outside of hospital wards will allow. Still, pathology as morbid physiology is the strong point of the work, and an occasional therapeutical fault does not detract much from its value, as it is not designed to supplant the regular text-books on materia medica and therapeutics, but as a valuable adjuvant. D.

ARTICLE XIV.—A MANUAL OF MINOR SURGERY AND BANDAGING. By Christopher Heath, F.R.C.S., Surgeon to University College Hospital, and Holme Professor of Clinical Surgery in University College, London; Honorary Fellow of King's College. Sixth edition. Revised and enlarged; with 115 illustrations; 12mo., pp. 342, cloth, $1.50. Philadelphia: Lindsay & Blakiston; 1880.

This book contains all that is necessary for the diagnosis and treatment of surgical diseases coming under the care of house-surgeons, and we may say of the average practitioner. It contains also many hints not found in larger works, comparative tables of symptoms, various manners of treatment, and all the latest discoveries and improvements of real value in mechanical surgery. The fact that it has already reached its sixth edition

renders any praise superfluous, yet let it be said that it is the best book published on the subject, and one whose perusal will repay the student with interest.

Nothing has been forgotten, every suggestion is useful and practical, and the style is orderly, easy and interesting. The author has identified himself with the subject. The illustrations are neat wood-cuts, handsomely executed, which will render the text easy even for beginners. H. D. V.

ARTICLE XV.—DIAGNOSIS AND TREATMENT OF EAR DISEASES. By Albert H. Buck, M.D., Aural Surgeon to the New York Eye and Ear Infirmary; Instructor in Otology in the College of Physicians and Surgeons of the City of New York, etc.

This work forms an admirable addition to the list of American medical literature. With but a half dozen lines of preface in which the author announces that his aim has been to present the results of his own experience in text-book form, he addresses himself at once to his subject.

Chapter I gives the physiology of the ear in simple, lucid style, illustrated by some satisfactory diagrams of the mechanical arrangement of the ossicles and of the minute anatomy of the middle ear, vestibule, semicircular canals and cochlea. Chapter II is devoted to the examination of patients, tests of the hearing power, details of instruments and methods. He strongly deprecates the use of the syringe, even by beginners, in the art of otological manipulation, recommending the curette instead, supplemented by the probes and cotton holder. The idea, however, of the country practitioner, with perhaps a half dozen otological cases a year, removing impacted ceramus from the meatus with the curette, will hardly be enthusiastically received by the great majority of the profession. Still the syringe is recommended for the patient's use, and the style represented has its point well protected from damages to the membrane by projecting bars. Chapter III, on Diseases of the Auricle. IV, of the External Auditory Canal. V, Methods of Examining the Middle Ear. VI and VII, Diseases of the Middle Ear, purulent and non-purulent. Chapter VIII is devoted to Fractures of the Tem-

poral Bone, with a series of selected cases, fourteen in number, a subject not usually treated in works of this kind, and forms a valuable section. Cnapter IX contains seventy-four pages on Diseases of the Mastoid Process, with five good illustrations of the anatomy of the mastoid region.

There are forty-six illustrative cases, detailed, with their clinical history and treatment. Chapter X is devoted to Miscellaneous Conditions of the Drum Membrane, Ossicles and Tympanic Cavity, of which want of space forbids detail, but interesting. Chapter XI on different forms of disease, in which the Labyrinth is supposed to be involved closes the book, except a convenient index.

This book is distinctively American, fresh and original in arrangement and detail. It deserves better type and binding than that in which this volume appears. Wm. Wood & Co.'s Cheap Series, of 1880. D.

ARTICLE XVI.—A TEXT BOOK OF PHYSIOLOGY. By M. Foster, M.A., M.D., F.R.S., Prælector in Physiology and Fellow of Trinity College, Cambridge. With Illustrations. Third Edition, Revised, 8vo. Cloth, pp. 720. $3.50. London: MacMillan & Co., 1879.

This book is well adapted for students on account of the amount of information it contains, of the regular arrangement of the matters treated, and of its cheapness, which is worth some consideration in reference to class books; but it will not replace the classical works of Dalton and of Flint, Jr.

The essentials of physiology are all contained in that volume, some in rather a concise manner, as Menstruation, in less than three pages, Impregnation, two pages, Nutrition of the Embryo, six, and Parturition, two. In an appendix of fifty-eight pages, small type, is treated the Chemical Basis of the Animal Body, a study which is fast increasing in the medical world, and is destined, some suppose, to revolutionize in the near future, our treatment of diseases.

The Chapters on Vascular Mechanism, the Contractile Tissues, Digestion, Respiration and Nutrition, form the bulk of the volume. It may be remarked that the fluidity of normal blood,

the origin of the red corpuscles, the question, Do we see objects upside down, and the origin of the special nerve of taste are yet unsatisfactorily explained? Regarding the beat of the heart, the author says: "From these facts (p. 169), the conclusion is drawn that the spontaneous pulsations in the heart are in some way associated with, and due to the action of the ganglia scattered in its substance."

The style of printing and binding is inferior to that of medical books in general, at least in this country. It is well illustrated, and will command a large sale on account of its medium size. The publishers announce a cheap "Student's" Edition, but the "Text Book" is surely not too voluminous for American medical students. H. D. V.

ARTICLE XVII.—HEADACHES: THEIR NATURE, CAUSES AND TREATMENT. By W. H. Day, M.D., Member of the Royal College of Physicians of London; Physician to the Samaritan Hospital for Women and Children. Third edition, with illustrations. 12mo. Cloth, pp. 322. Price $2.00. Philadelphia: Lindsay & Blakiston. 1880.

The first page, on opening the book, being devoted to Opinions of the Press, it would be difficult to surpass the praises there addressed to this deserving little book. It is surely a fine example of modern book making, and will greatly profit the buyer, if he can afford to pay $2.00 for such a monograph. It is all original matter, and the treatment, which is the best part of the book, is methodical and adapted to all sorts of cases and circumstances.

It is handsomely bound and beautifully printed, contains 116 valuable and practical formulæ, and a chapter devoted to Headaches of Childhood and Early Life. H. D. V.

BOOKS AND PAMPHLETS RECEIVED.

How Persons Afflicted with Bright's Disease Ought to Live. By J. F. Edwards, M.D.

Lectures on Surgical Disorders of the Urinary Organs. By Reginald Harrison, F.R.C.S.

Manual of Medical Jurisprudence. By Alfred S. Taylor, M.D., F.R.S.

Transactions of State Medical Society of Pennsylvania, for 1880. Thirtieth Annual Session.

Yellow Fever: Its Ship Origin and Prevention. By R. B. S. Hargis, M.D., Pensacola, Florida.

Dr. Paul Börner's Reichs-Medicinal-Kalender für Deutschland, auf das Jahr 1880 und 1881.

Medical Heresies, Historically Considered; Evolution of Sectarian Medicine; Sketch and Review of Homœopathy. By Gonsalv C. Smythe, M.D.

Hernia, Strangulated and Reducible. By J. H. Warren, M.D.: Boston, Mass.

Compendium of Microscopical Technology. By Carl Seiler, M.D.

The Descriptive Atlas of Anatomy; A Representation of the Anatomy of the Human Body: In 92 Royal 4to Plates, Containing 550 figures. Philadelphia: J. B. Lippincott & Co. 1880.

Ophthalmic Test-Types, and Color Blindness Tests. Wm. Wood & Co., New York.

Atlas of Human Anatomy. Arranged according to Drs. Oesterreicher and Erdl; with Explanatory Text by J. A. Jeancon, M.D. A. C. Wilde & Co., Cincinnati. Complete in 45 parts, at 75 cents each. Numbers 983, 984, 985, 986, 987, 988, 989, 990, 991, and 992.

BY an error of the printers, the valuable selected article published by us last month, entitled "The Human Face," by Prof. Ambrose L. Ranney, of New York, was not duly accredited to the *New York Medical Journal*. We beg the indulgence of our esteemed cotemporary, as well as our many readers, for this apparent discourtesy. The *New York Medical Journal*, it need not be said, is one of the brightest and best of our exchanges, and we hope to go to it again for good selected material. We are sure that it will supply its readers with as good pabulum in the future as it has in the past.

DURING the last eighteen months, Prof. Wm. H. Byford, of Rush Medical College, has performed twenty-two ovariotomies with nineteen recoveries, a remarkably favorable showing, which the professor attributes, not so much to his well-known skill as an operator, as to the precautions taken in what is now well-known as Listerism.

Editorial.

MEDICAL LEGISLATION.—The time has come again, when the legislative bodies of most of the states are in session and ready to legislate on all conceivable subjects.

During the last few years there has been an increasing disposition on the part of these legislative bodies to enact laws for the protection of the people both against the spread of contagious and infectious diseases, and the impositions of unqualified medical practitioners. Both these objects are of very great importance to the people, and are, therefore, worthy of the most careful consideration, especially by all intelligent physicians. In regard to the enactment of laws for the protection of the people against the impositions and dangers of unqualified *Doctors;* or, in other words, laws to secure for the people the services of a thoroughly educated medical profession, there are now, and always have been, practical difficulties not easily overcome.

These arise in part from a want of knowledge on the part of the people, or their representatives in the legislatures, concerning the nature of medical studies and the means necessary to prosecute them successfully; and in part from the difficulty of establishing and maintaining proper and efficient tribunals in each State for exacting impartially the proper standard of attainments from all those who propose to enter upon the practice of medicine.

An adequate knowledge of the first, would show the members of every legislative body: first, that no person could be properly prepared to commence the study of any department of medical science until his mind had been disciplined and stored by a thorough study of all the ordinary branches of an English educa-

tion, including mathematics, physics, and the natural sciences. Second, that the very nature of most of the branches of medical science, such as anatomy, physiology, chemistry, materia medica, pathology, practical medicine, surgery, midwifery, etc., absolutely require for their practical study the use of material, apparatus, and means of illustration, that can be found no where except in medical colleges, and hospitals for the sick. So large a proportion of the whole field of medical knowledge requires for its proper practical acquisition the means furnished only by such institutions, that, at least, one-half of the whole period allotted to medical studies should be spent in them. Third, that a medical college, to fulfill the purposes for which such institutions are needed, must have a sufficient supply of anatomical material; sufficient chemical, physiological, and pathological laboratories and apparatus; adequate cabinets or museums of materia medica, pathological specimens, comparative anatomy, etc.; and such intimate connection with permanently established hospitals and dispensaries for the sick as will afford ample opportunity to study disease at the bedside; in other words, that a proper medical college for the education of young men to practice medicine, is something more than the organization of six or eight doctors into a college faculty under some special charter or general incorporation law, with an annual term of from sixteen to twenty weeks of simple didactic instruction, with the power to grant *diplomas* to whoever they please at the end of it.

These three propositions, so plain and familiar to every intelligent and thoughtful medical man, but altogether obscure to the ordinary, non-professional members of our legislature, show very clearly that no *law* can be devised which will practically insure to the people the services of a body of well qualified and reliable physicians and surgeons, without including in its provisions: first, a proper standard of preliminary education to be determined before entering upon the study of medicine; second, the minimum length of time that must be devoted directly to the study of medicine, and how much of that time shall be spent in attendance on a proper medical college; and third, what shall constitute a medical college to be recognized under the law.

Yet most of the laws that have been enacted in the several

States, during the last twenty years, for the regulation of the practice of medicine have wholly failed to regard any of these fundamental propositions. The law of this State passed in 1877, for regulating the practice of medicine and establishing a State Board of Health, does not touch either of these topics; but simply requires the applicant for license to practice in the State, to present and verify the rightful possession of a *diploma* from some "chartered or legally established medical college in good standing," or undergo an examination in the several branches of medicine by the Board of Health.

The law does not say whether the college issuing the "*diploma*" must have any adequate means for imparting medical instruction, or whether it must require the attendance of the student one, two or three terms, or whether the terms shall be one or six months long; but only that it be legally established and in good standing. But when it is remembered that any five or more physicians or even non-professional men can "legally" establish a medical college under the general incorporation laws of most of the states, and that the words, "good standing," are altogether too vague for any practical use, it will be apparent that the law really amounts to nothing more than one of registration, without any power to exact a given standard of education.

So, too, the power given to the State Board to examine and license those who have no diploma, is equally indefinite. It does not restrict the Board to an examination of those only who have faithfully devoted three years or more to the study of medicine after having had a proper preliminary education, and who have spent at least half of that time in some properly organized medical college and hospital; but leaves it entirely at liberty to examine any applicant they please, whether he has studied six months or six years, or has ever seen the inside of a medical college or not. It is needless to add that the value of such a law in securing to the people the services of a thoroughly qualified medical profession, must be very small; and even the little that it can accomplish depends entirely on the character and faithfulness of the members of the State Board. And this leads to some remarks in regard to what we have mentioned as the second source of difficulty in the framing of efficient laws for maintaining

a proper standard of medical education, namely, the creation and perpetuation of an efficient State board or executive medical body, whose duty should be to see that the laws relating to the proper qualification of medical practitioners were faithfully observed and executed. All will agree that such a board should be composed mainly, if not exclusively, of medical men of the highest degree of probity and learning, and its powers and duties should be clearly defined. If the law regulating the practice of medicine in this State should be so amended that after a given date (say January, 1883), no one should be permitted to enter upon the practice of medicine within its limits except those who should present to the State Board a diploma from some medical college which required for admission to its halls such a preliminary education as we have already indicated, and three full years of medical study; attendance on three annual courses of college instruction of not less than six months each, and regular attendance on clinical instruction in a general hospital for the sick, at least, one collegiate year, before granting the diploma; then the question as to how and by whom the board should be appointed, would be of less consequence simply because the duties of the board under such a law would be chiefly clerical. To verify the genuineness of the diploma and the rightful possession of it, and the true status of the college granting it, would constitute their chief duty in this direction. For the execution of such a law, our present State Board of Health, or any other board similiarly constituted and appointed, would not be objectionable.

But if the board is to retain the power to *examine* and *license* any who have not received a diploma from some recognized medical college, it should be compelled to limit such examinations to those applicants who had complied with all the requirements necessary for being admitted to the final examination for a diploma in a college of recognized standing.

If these alterations were made in our State law, it would at once fix a minimum standard for the education of the profession of a fair and honorable character, make a reliable guide for the action of the State Board, and it would compel a most desirable and general advance in the standard of medical college requirements and instruction, and yet it would inflict no injury on any

medical school in our own State. To effect the objects here proposed it would only be necessary to amend the present law for regulating the practice of medicine, passed in 1877, by inserting the following after the words "good standing," in section 3: [but the diploma of no medical institution shall be received that does not enforce the requirement of a good academic or high-school education for the admission of students; and exact the study of medicine at least three years, direct attendance on the college instruction at least three annual terms of not less than six months each, and on the clinical instruction in a general hospital at least one college term, and a full examination in all the branches taught, as conditions for graduation.] And, in the same section, after the words "examined by the Board," insert the following: [but no person shall be thus examined by the Board unless he has fully complied with all the educational requirements that would be necessary to entitle him to an examination for a diploma by a recognized medical college.] D.

ADULTERATIONS OF FOOD.—Supplement No. 11, accompanying the *National Board of Health Bulletin* for January 1st, 1881, is filled with the report of Dr. Charles Smart, U. S. A., giving the results of his investigations concerning the adulterations of articles used for food or in its preparation for use.

The articles examined were teas, coffees, chicory, sugars, syrups, flour, corn-meal, lard, bread, baking-soda, cream of tartar, baking-powder, black pepper, white pepper, allspice, ginger, nutmegs, mace, cloves whole, cloves ground, cinnamon whole, cinnamon ground, cassia, cayenne, mustard, vinegar, pickles and colored confectionery.

The whole number of samples examined was seven hundred and thirteen—three hundred and four of which were obtained from the most reputable dealers, and four hundred and nine from sources that might be regarded as suspicious. Of the former, less than eight per cent. gave evidences of any important adulterations; and of the latter, forty-four per cent. As to the *character* of the adulterations, the report says: "Fortunately,

with such exceptions as the alum in bread and the baking material, the sulphate of lime which oftentimes replaces cream of tartar in household baking, the debasement of milk by diluting, and the poisonous pigments used for coloring confectionery, the adulterations cannot be considered as deleterious. They affect the pocket of the individual rather than his health, so that, to use the words of the committee appointed by the National Board of Trade to award prizes for the best draught of an act repressive of adulterations, 'the question of adulteration of food should therefore be considered not so much from a sanitary standpoint as from that of commercial interests; as being in the nature of a fraud in aiding the sale of articles which are not what they are represented to be.'" These results are much more favorable than was anticipated by many, and do not afford any strong indication that special repressive legislation is necessary.

CURIOSITIES IN MEDICAL TEACHING.—We are informed that much of the instruction given by a professor of Materia Medica in one of the homœopathc medical colleges in this city, is imparted in the form of questions to be answered by the class. The following are a few specimens of the questions and answers, taken verbatim by a student during attendance on one of the regular lecture hours in that school:

1. *Professor.*—What is the proper remedy for *mania*, with desire to cut and tear things? *Student.*—Veratrum.

2. *P.*--For pain in the abdomen flying upward? *S.*—Bryony.

3. *P.*—For *tip* of the *nose*, red and hot, particularly in warm weather? *S.*—Belladonna.

4. *P.*—For emaciation of upper part of the body while the lower part is enormously swollen? *S.*—Lycopodium.

5. *P.*—For child that dislikes to be washed or bothered? *S.*—Sulphur.

6. *P.*—For easily biting cheek, in chewing? *S.*—Ignatia.

7. *P.*—For mumps on the *left* side? *S.*—Rhus Tox.

8. *P.*—For mumps on the right side? *S.*—Mercurius.

9. *P.*—For constantly dreaming of dead persons? *S.*—Arsenicum.

10. *P.*—For constantly dreaming of robbers? *S.*—Ignatia.

These are fair samples of the whole.

CHANGES IN MEDICAL JOURNALS.—The *American Medical Bi-Weekly*, which was formerly published at Louisville, Ky., and edited by E. S. Gaillard, M.D., was for a time discontinued on account of the failure of the editor's health. But Dr. Gaillard having recovered his health and established himself in New York city, has resumed the publication of his journal in that place.

The *Arkansas Medical Monthly*, heretofore published at Little Rock, Arkansas, is to be moved to Memphis, Tenn., and continued under a new name. J. J. Jones, M.D., will continue to be its chief editor.

We have received No. 1 of the *International Journal of Medicine and Surgery*, published at No. 1 Chambers street, New York, and edited by Drs. B. Newton, A. Rose, N. Senn, H. A. Bunker, and C. N. Ten Eyck.

The Annals of Anatomy and Surgery, is the slightly changed title of a medical periodical well known to many of our readers, as we have heretofore had occasion to reproduce some of its valuable and original work. It is now under the editorial management of Drs. L. S. Pilcher and Geo. R. Fowler, of Brooklyn, N. Y. We commend its fruitful pages most heartly to all our surgical and anatomical friends, as well as to all who are especially interested in the important field which it covers, and, for that matter, what medical is not.

Selections.

Diseases of the Glands of the Female Urethra. By A. J. C. Skene, M.D.

Last spring I called attention to the anatomy of two important glands of the female urethra, and made some contributions to their pathology. Since that time I have had opportunities for extending my observations, and I now offer the result of my investigations to this Society. For the benefit of those who may have overlooked the original paper in the *Obstetrical Journal*, and with the view of making what follows more clear, I will quote briefly the description of the anatomy of these glands.

Upon each side near the floor of the female urethra there are two tubules large enough to admit a No. 1 probe of the French scale. They extend from the meatus urinarius upwards, from three-eighths to three-quarters of an inch, parallel with the long axis of the urethra. They are located beneath the mucous membrane in the muscular walls of the urethra. The mouths of these tubules are found upon the free surface of the mucous membrane of the urethra within the labia of the meatus urinarius.

The location of the openings is subject to slight variation, according to the condition and form of the meatus. In some subjects, especially the young and very aged, and in those in whom the meatus is small and does not project above the plane of the vestibule, the orifices are found about an eighth of an inch within the outer border of the meatus. When the mucous membrane is thickened, relaxed and slightly prolapsed, or when the meatus is everted, conditions not uncommon among those who have borne children, the openings are exposed to view upon each side of the entrance to the urethra. The upper ends of the tubules termin-

ate in a number of divisions which branch off into the muscular walls of the urethra. These branches can be demonstrated by injecting the tubules with mercury and then laying them open.

I have called them glands because they differ in size and structure from the simple follicles found in abundance in this portion of the mucous membrane. When they were first discovered I presumed that they were mucous follicles which were accidentally of unusual size in the subject examined, but having investigated more than two hundred of them in as many different subjects, in which they were present and uniform in size and location, I became satisfied that they were worthy of a separate place in descriptive anatomy. This attention they have not heretofore received, nor have the diseases to which they are subject been referred to by pathologists. At least I have been unable to find any notice of them in the standard text-books on anatomy and gynæcology in English, French and German. It is easy to understand why these insignificant structures should have been overlooked by anatomists, or, if noticed at all, to be classed with the ordinary mucous follicles. It is only when their pathology is understood that their real importance becomes apparent.

The diseases of these glands to which I invite your attention at the present time are:

First.—Subacute inflammation or catarrh.

Second.—Gonorrhœal inflammation and its results or products.

Third.—Inflammation following vulvitus such as occurs in strumous children.

Fourth.—Tuberculosis.

The first affection named in the classification is a mild form of catarrhal inflammation which occurs in connection with subacute vaginitis such as we find accompanying ordinary uterine disease or following parturition. This condition gives the patient very little, if any, inconvenience, and readily passes unnoticed by the gynæcologist unless especially looked for. The mouths of the ducts are slightly enlarged, and sometimes surrounded by a very narrow areola of a bright-red color. By pressure upon the urethra from behind forward they discharge a white serous fluid. The cases which have come under my observation were detected while examining for other diseases, and none of them were at-

tended with any marked symptoms. In some of them the inflammation disappeared without treatment. In others it continued without showing any tendency to increase in severity or lead to important changes of structure. It is quite possible that a non-specific vaginitis might induce a high grade of inflammation in these glands with all the pathological changes to be described hereafter, but up to the present time I have not observed any evidence that such is the case.

Gonorrhœal inflammation of these glands is of the chronic purulent variety, and in time extends from the mucous membrane of the ducts to the surrounding tissues. It does not usually attract attention until the vaginitis and urethritis has subsided.

The lesions presented differ according to the length of time which the disease has existed. When examined early there is slight swelling of the lower portion of the urethra. The mouths of the ducts are larger than normal, and the tissues around them are congested. There is tenderness to the touch, and pressure upon the urethra from above downwards causes a free purulent discharge. Sometimes it is necessary to separate the labia of the meatus in order to see the orifices of the ducts. In cases of longer standing the mouths of the ducts are brought into view by a slight prolapsus and eversion of the mucous membrane caused by swelling. The mucous membrane in the neighborhood of the ducts becomes thickened by proliferation of the areolar tissue and epithelium, presenting an irregular papillomatous appearance of a deep red color, upon the inner sides of which the orifices of the ducts appear like minute ulcers, of a yellowish gray color. The lower third of the urethra is generally thickened and indurated. The general appearance of the parts is quite like caruncle or papilloma of the meatus. In fact, inflammation of these glands has been mistaken for caruncle, at least it has been my misfortune in the past to confound the two affections, and I cannot see how others could have made a differential diagnosis, if guided by the current literature upon the subject. In a large proportion of the cases of this disease I have observed that upon the inner side of the labia minora, which rests upon the meatus, there are patches of inflammation which are caused and kept up by the purulent discharge from the glands. These circumscribed

patches of inflammation sometimes extend downwards on each side of the introitus, and occasionally involve the carunculæ myrtiformes. This gives rise to much tenderness, which simulates vaginismus. The chief symptoms are extreme tenderness to the touch, great discomfort in sitting and walking, occasional sharp stinging pain, and a continual sense of heat in the parts. There is painful urination in some cases, and in others there is not. In some of the most marked cases that I have seen, this symptom was entirely absent, while in less severe forms it has been present. That peculiar difference in the history of cases I have attributed to the fact that in the well-developed forms of the disease there is considerable eversion of the lower portion of the urethra, which throws the diseased and tender portion outwards, and thereby prevents the urine from coming in contact with the irritable surfaces. Occasionally there is frequent urination, due most likely to sympathetic irritation of the bladder. The symptom which is always present, in varying degrees of severity, is tenderness. The diagnosis and treatment may be left unnoticed until the other two affections of these glands have been described.

Purulent vulvitis, which occurs in children, especially those of scrofulous diathesis, occasionally extends to these glands. When such an extension of the disease occurs, it adds its well-known rebelliousness to treatment. The original inflammation of the vulva may be relieved, but if the glands are involved, the purulent discharge from them will soon light up the disease of the external parts. From my own observations I believe that these glands rarely become involved, but when they do there is little possibility of curing the affection of the vulva until the glands are first successfully treated. There is really nothing peculiar in the clinical history of this form of disease, except its etiology, and therefore I need not dwell longer upon it, further than to say that I have seen a case of this kind, which had resisted treatment for a long time, but promptly recovered after the inflammation of the glands was detected and treated.

Tuberculosis, or tubercular inflammation of these glands, is an affection to be distinguished from the other forms of disease already considered. It occurs only in those who are of the tubercular diathesis, and may appear as a primary affection, or be

developed during the progress of tubercular disease of other organs of the body. When the disease is first established it presents the same pathological appearances as have been described under the head of gonorrhœal inflammation. There is, apparently, the same purulent discharge, with redness and proliferation around the mouths of the ducts, giving the peculiar caruncular or papillomatus appearance. The only peculiar characteristics of this affection that have been observed up to the present time, are the accumulation of caseous material in the tubules, and ulceration, which occur in more advanced stages of the disease.

The ulceration takes place in the newly formed tissue in the walls and around the mouths of the tubules. These caseous concretions and ulcerations are not found in all cases. Indeed, they are rare.

There is generally urethral inflammation accompanying this condition of the glands. It sometimes begins simultaneously with the disease of the glands, and when it does not, it follows soon after. In time the bladder becomes affected, and also the kidneys. At whatever point the disease commences it increases in severity, and extends until the whole of the urinary organs are involved, unless the patient succumbs before it has completed its progress. In some cases there are polypi and papillary growths of small size found along the urethra. These, I believe, originate in inflammation of mucous follicles and papillæ of the mucous membrane.

The symptoms presented in this form of disease are the same as those found in other forms already described. From this it will be observed that the physical appearance and the symptoms are insufficient to establish a diagnosis. When there are ulcerations and caseous deposits the disease may be strongly suspected of being tubercular. Still, there is room for doubt until we find tuberculosis of other organs. This either precedes or soon follows the appearance of the disease of the glands.

In all the cases which have come under my observation the lungs were either tubercular when the patients were first seen, or became so soon after.

This affection is a source of great annoyance and suffering, and no doubt hastens the progress of the pulmonary disease with which

it is generally accompanied. It has also another very important significance in the fact that it indicates the commencement of general tuberculosis of the urinary organs. The diagnosis of tubercular cystitis and urethritis has always been exceedingly difficult in the early stages of the disease. Indeed, it has been deemed impossible by most authors to distinguish ordinary cystitis from the tubercular form until the disease became developed in other organs of the body. Now that tuberculosis of these glands is understood, a valuable aid to diagnosis has been gained. Whenever an inflammation of these glands is found that cannot be traced to a former gonorrhœa or vulvitis, it is almost sure to be tubercular, and the diagnosis is placed beyond doubt if the patient has the tubercular diathesis.

I am greatly indebted to Dr. Terrillon, of Paris, for some very valuable information upon the relations of disease of these glands to tuberculosis. In the *Progrés Médical* for this year he published a very elaborate article entitled "Polypoid Excrescences of the Female Urethra, Symptomatic of Tuberculosis of the Urinary Organs," which is full of original observations of inestimable value. In comparing his observations with my own I am fully satisfied that he has mistaken tubercular inflammation, and its products, of these glands, for excrescences, in some of his cases at least. Without being aware of the presence of these glands, it is perfectly natural that he should class those vascular developments found at the meatus urinarius among the ordinary neoplasms of the urethra, just as all others have done in the past. There is every reason for believing that the excrescences which Dr. Terrillon refers to differ in their essential pathology from the ordinary polypoid growths, usually called carunculæ, which are found in the urethra, and are associated with tuberculosis. And as the history of his cases coincides with the history of the cases of tuberculosis of these glands which I have seen, I am compelled to believe that he has not fully comprehended the true pathology of this affection. He has, however, clearly shown the relation of this affection to tuberculosis of the urinary organs, and that alone is worthy of the highest honor.

Dr. Terrillon's article is too long to be given in full, but a few condensed extracts will show his views upon the subject. His

description of the symptoms and the general appearance of the parts affected are so much more complete than my own that I prefer to give them in full:

"The fungoid growths show themselves usually at the surface of the urethral orifice. They are projecting and pedunculate. Seldom isolated, they form most frequently a wreath, more or less regular, around the orifice of the meatus. In very aggravated cases they are united into a mass and then form a real projecting tumor with a fringed aspect, of a lively red. In the center of the tumor is easily to be found the orifice of the urethra masked by those papillary growths. The symptoms of fungoid excrescences of the urethra accompanying tuberculosis of that organ and the bladder includes the observation of two distinct parts: First, the study of the growths themselves and the character of them. Second, all the phenomena to be found in cystitis and tubercular urethritis. Sometimes the symptoms of the two lesions are found together; sometimes, on the contrary, they exist singly up to a certain period of the disease. One of the special symptoms of this affection is the exquisite tenderness of which these fungoids are possessed. The least touch, the least rubbing, the passage of urine suffices to cause the most extensive pain which renders life insupportable. This hyperæsthesia, which may extend to the neighboring parts, causes at the sides of the orifice of the vulva symptoms of the most acute vaginitis. These are the ordinary symptoms of fungoid growths when existing externally." The author at this point refers to excrescences found within the urethra as being of the same nature as those found at the meatus. He makes no distinction between the two forms of disease. There is, however, a difference worthy of notice. Excrescences found within the urethra are usually cystic polypi or enlarged papillæ of the mucous membrane, conditions which may exist independently of tuberculosis. I infer from some other statements made in his writings that the granular urethritis—as we are in the habit of calling it—is generally secondary to the disease of the urethral glands. The views of this author in regard to the order of development of urethritis, cystitis, and finally tuberculosis of the lungs, are set forth in the following:

"Sometimes, at the time of their appearance, these fungoids

appear to be altogether isolated from all other serious lesions. Yet they seem to precede tuberculization, or soon take a rapid course in developing granulations in the urethra. In other cases these growths may appear some time after the symptoms of tuberculization have been established." The cases recorded by Dr. Terrillon, and also those which have come under my own observation, show that, as a rule, this disease of the urethra precedes the appearance of tuberculosis in other organs of the body, such as the lungs. It also is one of the first lesions observed in tuberculosis of the urinary organs. The following is from Dr. Terrillon's paper on this subject:

"Now comes up the important question, whether these polypi of the mucous membrane should be considered as a primary or an idiopathic lesion, and I think that it can be solved in the following manner: These polypi are most assuredly the result of chronic inflammation and an irritation of the mucous membrane. Now, development of tubercular granulations within the mucous membrane is at first the cause of irritation, before any changes in the urine; ulceration does not occur until after a sufficient length of time. With one of our patients the first irritation induced the formation of polypi, and the common painful symptoms followed. Their extirpation gave relief, but that lasted only up to the time when urethro-vesical ulceration occurred. It will be observed that in this case the affection began in the urethra and extended to the bladder, and also secondarily involved the left kidney (ascending tuberculosis), causing finally change in the urine, with the free formation of pus. I therefore do not hesitate to maintain that the fungoid polypi are the result of tubercular irritation of the mucous membrane of the urethra, which gives rise to the very serious symptoms which occur in the early stages of the disease. Without them urinary tuberculosis would not give rise to those striking symptoms until after a sufficient length of time, when the ulcerations appear in other organs. An analogous phenomenon, which is observed in the larynx, should be mentioned here. We know, as a matter of fact, that the tuberculization of the larynx does not only occasion ulceration, but also polypoid growths. There is produced at the expense of the ulcerated mucous membrane an hypertrophy and proliferation,

in the form of cauliflower excrescences or cock's-comb growths, a species of polypi smaller or larger, by which the glottis might be more or less obliterated. It will therefore be admitted that there is a resemblance between laryngeal excrescences and those found in the urethra of women.

The polypoid excrescences of the female urethra show, from an etiological point of view, to be of two distinct varieties. The first variety is idiopathic, and may be recognized by a slight irritation. The prognosis is good; extirpation in these cases gives a rapid cure. This is the most frequent variety. The second kind, although they give the same outward appearances as the first variety, are on the contrary accompanied from the outset by urethritis and tubercular cystitis, of which variety these lesions constitute important symptoms.

When I found inflammation of these glands associated with tuberculosis of other organs, it occurred to me that the disease of the glands might be of the same nature, or tubercular, but I am indebted to the writings of Dr. Terrillon for the full knowledge of the pathological relations of the affection of these glands to tuberculosis of the other urinary organs. We have studied the subject from different standpoints, and the combined results of our labors cover the ground pretty thoroughly. While he has clearly settled the relation of these excrescences to tuberculosis of the urinary organs, I have satisfied myself that these new growths are but the products of a tubercular inflammation of the urethral glands, the existence of which were, I presume, unknown to him. The treatment of the various forms of inflammation of those glands may all be discussed at the same time.

It is settled upon the best evidence that when these glands become inflamed there is no natural tendency to their recovery. Those who have read the history of my first published case will remember that I employed all the recognized treatment for caruncle, but at the end of a year my patient was no better. Dr. Terrillon has had a similar experience. On this point he says: "A characteristic more important, and to which I desire to call especial attention, because it indicates well in my opinion the consecutive development of these excrescences, is their tenacity and the facility with which they recur. Really, one can see in

the observations (meaning his cases) in which continued surgical intervention has been practiced, it brought about either no relief or only a momentary amelioration."

This experience in the treatment of these excrescences is proof positive to me that they originated in inflammation of the urethral gland. My own observations have given the same results, showing clearly that these growths cannot be arrested until the inflammation of the glands which causes them is eradicated. It is otherwise with polypoid excrescences due to other causes. If they are completely removed they do not return as a rule.

The treatment which I employed at first was to inject the tubules with the ordinary solutions used in the treatment of inflammation of mucous membranes, using for the purpose a hypodermic syringe, with the point of the middle rounded off. This method I found useful, but very tedious. It then occurred to me that laying open the tubules their whole length and keeping them open would prevent the purulent accumulation (which acts so effectually in keeping up the inflammation) and also bring the affected parts within easy reach of the necessary treatment. This method was suggested in my paper published last winter, and since then I have tried the method in quite a number of cases and found it entirely satisfactory. In the majority of cases it is all that is required to effect a complete cure. The method of operating is as follows: The patient is placed upon the left side, and a Sims speculum used to keep the labia apart and retract the perineum. This brings the parts well into view, and within easy reach of the operator.

The position and depth of the tubules having been first ascertained, the probe-pointed blade of a very fine scissors is then introduced, and the posterior wall divided its whole length. To prevent the parts from reuniting, a small piece of cotton, saturated with persulphate of iron, should be packed in between the divided edges. Brushing the surfaces over with the iron, without using the cotton, will answer, although less certainly, to prevent reuniting. Very little after-treatment is required. In the majority of cases recovery follows the operation of laying open the canals. Sometimes the inflammation lingers in a modified form, but yields to a few applications of nitrate of silver or sulphate of zinc. In

several cases in which the excrescences were abundant, they remained after the operation, although very much reduced in size. An application of nitric acid destroyed them, and they have not shown the least disposition to return.

AN interesting case of a foreign substance in the trachea is detailed in the *Nashville Journal of Medicine and Surgery*.

The patient, aged seventeen, while eating hickory nuts suddenly started to run and inhaled a piece into the trachea. Severe coughing ensued, but resulted only in failure to dislodge the substance, which was located after a time in the right bronchia, causing considerable cough and expectoration of mucus with occasion show of blood. The young man continued hale and hearty and well developed, and grew to full manhood doing ordinary labor, till suddenly profuse hæmorrhage ensued which was nearly fatal, but yielded to energetic treatment. From this time there was profuse discharge of pus, mixed more or less with blood. Eleven months subsequently while the young man was in bed, he had a severe spell of coughing, and felt something suddenly give way at the point of trouble, followed immediately by a sense of strangulation and impending death. After energetic efforts a large quantity of pus, largely mixed with blood, was discharged, and cause of all this suffering and danger found in the mass. A piece of hickory nutshell almost perfect with a piece of the kernel still in it, which dropped out when washed. The shell measured when dried 9-16ths of an inch on two sides and 7-16ths on the other, and weighed 10 grains, was convex on one side, concave on the other, and not apparently softened, though in the lung exactly three years and seven months. The young man continued to improve daily, and there is no reasonable doubt of his ultimate recovery.

THREE deaths from chloroform are reported as having occurred in November and December, one in Kentucky, one in London and one in Vienna.—(*New York Medical Record.*)

Original Translations.

MENTAL STATE OF THE PERSECUTED. From *Le Praticien*, Sept. 13, 1880. Translated by H. D. Valin, M.D.

Till late years, persecuted lunatics remained unobserved, and the clinical history of their persecutions was unknown. This was owing to a lack of classification of mental diseases; they were referred to the melancholy of Pinel, the lypæmania of Esquirol, or to the monomania with sad ideas of Baillarger who touched this question, thirty years ago, and divided the monomaniacs into two classes, the gay and the sad.

In 1852, Lasègue described, in the *Archives Générales de Médecine*, a category of patients who came under his observation at the Prefecture of Police. Ideas of persecution were prominent in their disease, and suggested the appropriate name of delirium of persecution. Legrand du Saulle, since 1864, studied the subject in connection with Lasègue among the patients of the Prefecture of Police, wherein every day brings some case of this kind. In 1871 he published a monograph on the delirium of persecution. This delirium is very frequent, since 500 cases occur every year in Paris.

Men predisposed to the delirium of persecution are of little intelligence; the start is slow, and the first cause can be referred sometimes to twenty years distance. No one could observe the evolution of that disease. The subject just attacked, is undecided, foggy, anxious, selfish, and morose; he abstains from the commerce of other people, and lives retired.

This period of evolution, unobserved, except by the patient's relatives, may be slow, and meanwhile he reasons with thought; he coldly accepts humiliation and contrariety without any reac-

tion of his mind. These ideas return after he is calmed, and again he makes up his mind to follow them. Some day he chances to be more bothered than usual; after interrogating himself, he sees hidden enemies, secret strategems; he imagines occult influences, the police, Jesuits, and Free Masons; then physical causes; he accuses nature, invokes electricity, somnambulism, and ventriloquy, imagining himself persecuted by trifling objects. A skeptic at first, his doubts weaken, and the probable becomes a certitude. Then he ceases to dispute, accepts everything, is suspicious of nobody, but accuses the oddest influences. He may take sudden determinations, give up his occupation, change his residence, and accept a lower position because he is mocked, or because he heard somebody whispering about him.

The most important symptoms are hallucinations of hearing; and no decision or determination but he will take to escape them. He will do anything to avoid a return of that hallucination. Accordingly, having formed the habit of retiring from the café at 11, he goes out at 10 since he heard some one insulting him, and then, ceasing to hear anything but insults, he returns, and determines to retire at five. Just now a true influence is felt, that of the medium in which he lives. The linguist has this advantage that his hallucinations are in any language, in French at Paris, in Italian in Milan, etc. A mere change of places often suffices to cause these hallucinations to disappear, but they return.

The original cause of the delirium of persecution often arises from a mere pretext, while the greatest misfortunes produce nothing but prostration and dejection. The persecuted remarks that people stare at him, but generally he has no hallucination of sight, unless he should be an epileptic or a subject of alcoholism. One experiencing abnormal sensations has illusions at first; it seems to him that one passing by whispered his name; a look, exchanged between two persons near him, seems a signal. It is as yet an auditory illusion, yet it strikes him vividly. This period of illusion is succeeded by one of hallucinations; he is very wretched; the threatening voice comes from the ceiling, the floor, the walls, or from his bowels. He claims to have been abused and wronged. He pays attention to all the invec-

tives which he heard through the ceiling, or the floor; he accepts everything, lives by himself, reports everything to himself. He takes no interest in important events, and cares for nothing else but what is done to him. A complete stranger to everything but himself, a more selfish man never was. He does not try to investigate the motives for which he is persecuted, nor the authors of such strategems. A noise strikes his ear; no use to try his sight, it is another trick against him. He abandons himself to fanciful appreciations and imaginary fears. The husband, the father and the citizen have disappeared and left a doubly selfish man, living in his delirious conceit. At last he believes that every one is acquainted with the persecutions which pursue him.

These patients have a peculiar language; it is a sort of special vocabulary. They say that they have been consulted in their thoughts, some one has repeated through their mouth, they allude to their prattlers, to their good and evil voices, but they do not say voices, they say, my invisible, my secret persons, my locations, my speaking ideas, etc. They borrow physical terms, think themselves under the influence of some natural force, and talk of coils, currents, and commotions. Often the hallucination of hearing rests on a true fact. A man who stole a silver spoon, when 18 years old, heard, 25 years later, on entering the asylum, a voice saying: That spoon, you stole it.

One of the most interesting cases is that of Jean Martin, quoted in 1877 by Legrand du Saulle. He heard a voice bringing a real fact back to his memory after thirty-two years: "Here is the masturbator of Father Michel." He was forty-seven then, and he armed himself, bought a revolver, and had a tin coat-of-mail made. His hallucinations were not constant and would cease during Mass from his content of mind. On October 9, 1876, he met the famous Michel, and fired five times at him. After the accomplishment of the murder he calmly delivered himself a prisoner. Three hours later, he wrote a relation of his delirium of persecution to his preceptor. He claimed to have been the victim of Michel for 32 years; the persecuted always inverts rôles. On being confronted with his victim, Jean Martin exclaimed, "I recognize here the rotten being who poisoned my life; he has

been my murderer." From that time, hallucinations of hearing ceased for eighteen months, in Meoulin's Asylum, where he was placed, but returned under another form; now the guillotine threatens him.

The persecuted have associated ideas with fundamental ones. They are hypochondriac, and liable to murder their physicians. They dread to be poisoned, hence their life is unbearable. The persecuted buys his food himself, never deals twice with the same man, and may even leave the country on that pretext. They try to poison him with unseen powders or gases. Powders are thrown into his room, or they come down the chimney into his bed, hence he goes to sleep elsewhere. He speaks of asphyxiating gases (for he seeks no serious explanation of things), putrefied miasms, and imponderous chemical atmospheres. These gases fall from the ceiling, along the chimney, or escape through the floor; then he closes all the openings, else he leaves the windows open at night in winter.

As an associated delirious conception, there is also the idea of greatness. They infer that the will which leads such unremittent enemies must be very stubborn, and their number great. Some day they conclude that they must be important men to excite so much animosity. They study their person and ask, who am I? But there are many bastards in that class, which fact lowers their characters and their manners, for such a position is ill-born in life. After meditating, the persecuted believes that he may be the son of an important man, then writes his novel; he was substituted for another child; he is the son of Don Carlos, or of Napoleon III. After the delirious theory is formed, they never get over it. They may even bring suits before the law, and may find proofs to substantiate their claims.

How frequent is the delirium of persecution? Lasègue and Legrand du Saulle found one in every six or seven insane. It is most common in men from the age of 30 to 40 years, the time of great works and excesses; in women, from 40 to 50. It has been remarked that celibacy and widowhood are most frequent causes. It is difficult to determine the influence of hereditary descent, for insanity is not readily divulged by the relatives because compromising and dishonoring. Legrand du Saulle

remarked that a great share is owing to inheritance from the mother, which is to that from the father in the proportion of three-fifths to two-fifths.

There is a multiplicity of causes, and it is difficult to affirm that the disease depends on any one in particular; lasting sorrows, seminal losses, and syphilis, are prominent causes. The depressing influence left in a predisposed mind by the idea of having taken mercury may be remarked. The delirium may point to some real fact as its origin. The course is slow, and the incubation is not easily determined. Only 20 per cent. recover. These at first experience slight intermissions or a temporary relief. Some are absolutely timid, but they are reserved and dissimulate; hence one should be very cautious. They well know that they are under the influence of a hallucination, but they wish to be discharged, and dissimulate their disease. The perpetual fear to be taken for masturbators is a torment of their life. Some persecuted institute law suits, or refer to the State, the rulers, or the government ministers, to obtain justice; some have walked to Paris from great distances for that purpose.

When the persecuted makes threats, it is because he is active. He always walks forward and kills. The passive persecuted is he that kills himself.

Taking other criminals and insane into consideration, the persecuted are divided into three groups: 1. Those that are not dangerous; 2. Those that are dangerous to themselves, not others; 3. Those dangerous to others. The first category is numerous enough. The second class comprises those who kill themselves. The third class is very dangerous; it comprises the numerous insane who commit crimes. A man sawed his wife's neck, because he heard a secret voice telling him that she had deceived him with somnambulists.

Various persecuted succeed in imparting their raving conviction to some acquaintance whom they render as insane as themselves, but much intimacy is necessary for that pathological contagion, as husband and wife, mother and daughter. This Lasègue lately described as double insanity. One can see these two persons raving in the same manner; but one may be capable of being cured, the passive, and the active incurable. If the passive is removed

from his companion, he may recover. He will lose his convictions, while the active remains firm in the delirium created by himself. But what is peculiar in that fact, is that the passive hears the same hallucinations, and the same same gastric voices; he is a victim to the same sensorial errors.

Ideas of persecution are met in the aged, as also in subacute alcoholism sometimes. The persecuted are difficult to treat because they dread to be poisoned. Some have recourse to hydrotherapy, which is capable of exciting or appeasing them. Leuret erected moral culture into a systematic treatment. The physical condition and its tendencies must be treated.

As a rule the persecuted strikes only the individual whom he has forewarned; this is peculiar to him. They make many wills, and forget their family; give to the poor, to the hospital, to any body; some leave their fortune to the Quinze-Vingt. It is difficult to determine their degree of responsibility; but it is always necessary to know whether the persecuted had hallucinations. As soon as hallucinations have had their sway, reason and free-will are lost, man is no longer his own master, and is no longer responsible.

THE annual reunion and banquet of the Alumni Association of Rush Medical College will be held in the Grand Pacific Hotel of this city, on the evening of Feb. 22d. The commencement exercises of the college will be held in Central Music Hall on the afternoon of the same day. The commencement exercises of the Chicago Medical College and the annual banquet and reunion of its alumni will be held on Tuesday, March 29th; due notice of the place will be given in our next number. The practitioners' courses of both schools will begin in and continue through the month of April.

Summary.

Collaborators:

DR. L. W. CASE, DR. R. TILLEY,
DR. BYRON W. GRIFFIN, DR. W. L. DORLAND,
DR. H. D. VALIN.

PHYSIOLOGY.

PHYSIOLOGICAL CHEMISTRY.—The Result of Experiments to Diminish the Malignancy of Fowl Cholera. Communicated to the Academy of Medicine of Paris, at its Meeting of October 26th, 1880. By Pasteur.

I take the liberty of recalling the following from among the various results which I obtained in my investigation of the affection commonly known as fowl cholera, and which I had the honor to report to the Academy.

1. Fowl cholera is a malignant disease in the first degree.

2. Its virus is formed of a microscopical parasite which is easily cultivated outside of the body of the animals subject to it. Hence the possibility of obtaining a perfectly pure virus, and the irrefutable demonstration that it is the sole cause of the disease and death.

3. The virus offers various degrees of malignancy. Sometimes the disease is followed by death, and at other times it results in a cure after the provocation of morbid symptoms varying in their intensity.

4. The differences noticed in the malignancy of the virus are not simply the result of observation based on natural phenomena, but the experimenter can repeat them at will.

5. As is the case with all infectious diseases in general, fowl

cholera has no relapse, or rather its relapses are in inverse ratio to the severity of the first attacks, and it is always possible to keep the virus so that the most malignant sample will give no result at all.

6. Without any desire to affirm any relation between small-pox and vaccine virus, it is evident that from the foregoing facts, there are conditions of the virus of fowl cholera in which this virus, relatively to the most violent attacks, will act in the same manner as human vaccine does to impart an immunity from small-pox. Vaccine virus causes a mild disease, vaccinia, preservative against a graver disease, small-pox. In the same manner, *the virus of fowl cholera has stages of diminished malignancy which communicate the disease, not death, in such a condition that after the animal has recovered, it is proof against the inoculation of a more malignant virus.* In some respects, however, there is a great difference between the two sets of facts, and it is not useless to remark that, concerning knowledge and principles, the advantage belongs to the study of fowl cholera; for, while we dispute yet the relations of small-pox and vaccinia, we are certain that the modified virus of cholera is a derivative of the most malignant virus of that disease; that we get the second through the first; in a word, that their fundamental nature is the same.

The time has come to give explanations of the capital assertion which is the basis of most of the preceding propositions, to-wit, that there are various states of malignancy in fowl cholera; a strange result, indeed, if we consider that the virus of that affection is a microscopical organism which one can handle in a perfectly pure state, in the same manner that we manipulate beer yeast or the micoderma of vinegar. Yet, if we consider calmly this mysterious notion of degrees in malignancy, we cannot fail soon to recognize that it is probably peculiar to the various species of that group of contagious diseases. Where is, then, the unity in one or the other of the diseases of that group? Citing one instance only, we see epidemics of small-pox of a very malignant character beside others very mild, without the differences being referable to external conditions of climate or to the constitution of the individuals attacked. Do we not see equally

epidemics becoming extinct by little and reappearing later and becoming extinct again. Hence the notion of the existence of a varying intensity in the same virus will not at most surprise the physician or the laity, although its scientific demonstration carries with itself a great interest. In the special case before us, the mystery chiefly appears in the fact that the virus being a microscopical parasite, the variations in its malignancy are easily observed. This is what I am going to clearly demonstrate.

Let us take for our starting point the virus of cholera in a very malignant state, in its most malignant state, so to speak. I have explained the manner of obtaining it with this property before to-day. It consists in taking the virus from a fowl just dead, not from the acute disease, but from the chronic. I have made the observation that the cholera takes at times this last form. Such cases are rare, although it is not very difficult to come across some instances. In these conditions, after the fowl has been very sick, it grows poorer and poorer, and resists death during weeks and months. When it dies, which fact happens after the parasite, leaving other organs, in which it had been confined till then, is taken into the blood where it grows, one can observe that whatever has been the original malignancy of the virus at the time of the inoculation, the sample taken from the blood of the animal, which took so long a time to die, is of a great virulence, which generally kills ten times in ten, twenty times in twenty. This fact being known, let us cultivate successively this virus, in a pure state, in a broth made with the muscle of the fowl, taking every time the seed of one cultivation in the preceding culture, and let us try the malignancy of these various cultures. It is demonstrated through experiments that this malignancy does not change in any sensible manner. In other words, if we agree that two virulences are identical whenever experimenting in the same conditions on an equal number of animals of the same species, the ratio of death being the same in the same time, we will come to the conclusion that the virulence of our successive cultures is the same.

In what I have just said, I have not mentioned the duration of the interval between two successive cultures, or, if we prefer, the duration of the interval from one sowing to the other, and its

possible influence on the successive virulences. Let us call attention to this point, however small its importance may appear. In an interval of from one to eight days, the successive virulences have not changed. In an interval of fifteen days the result is the same. In a month's, six weeks', two months', interval, there is no further change observed in the virulences. However, as the interval grows longer, there seem to be certain signs, of little apparent value, that the inoculated virus is becoming weaker. For instance, the rapidity, if not the ratio of death, undergoes delays. In various species of inoculated fowls, we see some very sick ones, lame and drooping, because the parasite in its progression through the muscles, has reached those of the the thigh; the pericardites are lingering; abscesses appear around the eyes; at last the virus has lost, so to speak, a part of its fearful character. Let us once more reach beyond experiments lasting a short time, before beginning a repetition of cultures. Let the duration extend to three, to four, to five, to eight months and more, before studying the malignancy of the development of the new microscopical being. This time the result is thoroughly changed. The differences in the successive malignancies, which, till now, did not appear, or appeared in a doubtful manner, now manifest themselves through prominent effects.

With such intervals between the sowing, it happens that, on repeating the cultures, instead of identical virulences, that is, instead of ten inoculated fowls dying in ten, we meet the ratio of death coming down to nine, eight, seven, six, five, four, three, two, one in ten, and sometimes there is no death at all; that is, the disease attacks every inoculated individual, but they recover. In other words, in simply changing the mode of cultivation of the parasite, in the sole fact of sowing at longer periods, we have a method to obtain progressively weaker virulences, and finally a true vaccinal virus, which does not kill, but gives a mild form of the disease which imparts immunity from the mortal disease.

One must not believe, for all these alterations, that the results take place with a mathematical regularity and fixedness. Some crops, which have been waiting for five or six months to be sowed, may show a persisting and considerable malignancy, while others of the same origin will already be altered after a lapse of three or

four months. We will give soon the explanation of these anomalies, which are apparent only. There is often, indeed, a sort of quick change from an intense virulence to the death of the microscopical parasite in the interval of a short time. While passing from one cultivation to the following, one is surprised to meet an impossibility of reproduction; the parasite is dead. The death of the parasite is otherwise a constant occurrence every time that a renewal of the cultivation has been delayed a sufficient lapse of time.

And now the Academy knows the true motive of the silence which I kept, and the reason why I have asked the liberty of some delay before divulging my method of alteration. Time was an element in my experiments.

But what becomes of the microscopical organism during the course of these experiments? Does it change its form and its aspect, while changing its malignancy in so profound a manner? I could not affirm the non-existence of certain morphological relations between the parasite and the various virulences which it undergoes, but I must own, that, until now, it has been impossible for me to discover them, and that, if they really exist, they are invisible to the eye helped by the microscope, so small would be the virus in that case. The cultivations are alike for all the malignancies. If one seems to perceive feeble changes sometimes, it seems in a short while to be nothing but an accident, and they do not reproduce themselves in the following cultures, something remarkable is that if we take each variety of virulence as the starting point of new cultures, successively repeated at short intervals, the variety of virulence is preserved with its proper intensity. Suppose the case of an altered virus which kills but one time in ten; it retains this virulence under cultivation if the intervals of sowing are not very long. An equally interesting fact, although contained in the general course of the preceding observations, is that an interval sufficient to kill an altered virus spares a more virulent virus which may be thereby altered but which does not necessarily die.

At this point whither we have just come, an important question presents itself; What is the cause of the diminution in the malignancy?

The cultivation of the parasite must necessarily be made in contact with the air, because this virus requires a certain amount of air to live. And it could not be developed without it. Hence it is very natural to ask at once, whether the weakening influence on the virus is not in the contact with the oxygen of the air. Is it not possible that the little organism constituting the virus, remaining in contact with the oxygen of pure air, in the medium in which it has just multiplied, should undergo some modification which would return permanently whenever the organism would be withdrawn from the modifying influence? We may, it is true, ask ourselves again if some principle of atmospheric air, besides oxygen, some chemical or fluid principle, might not intervene in the accomplishment of the phenomenon, whose incomparable strangeness authorizes all sorts of suppositions.

It is easy to understand that the solution of this problem, in case it should follow from our first hypothesis, that relating to the influence of the oxygen of the air, is easy enough to ascertain, for if the oxygen of the air is the modifying agent of the malignancy, we may very likely find a proof of it in the result of the suppression of oxygen. With this intention, let us make our experiments in the following manner: A convenient quantity of hen's broth being sowed with the most malignant virus, let us fill with it glass tubes to one-third, to three-fourths, etc., of their volume; then let us close these tubes in the flame of a lamp. By the help of the small quantity of air left in the tube, the development of the virus will take place, a circumstance which the eye can perceive in a perturbation of the liquid; the progress of the breed soon absorbs all the oxygen contained in the tube. Then the perturbation ceases, the virus deposits itself on the walls of the tube, and the liquid becomes clear once more. This requires two or three days. The little organism is henceforth protected from the contact of oxygen and will remain in that state as long as the tube remains closed. What will its virulence become this time? To secure a greater certainty in our experiments we shall have a number of similar tubes, and at the same time an equal number of flasks of the same cultivation freely exposed to the contact of pure air. We have mentioned what becomes of the

samples exposed to the contact of the air; we know that they undergo a progressive diminution of their virulence; we will not repeat it any more. Let us mention only the sealed tubes protected from the air. Let us open them. Of the one after an interval of a month, and after having reared a crop by sowing a portion of its contents, let us try the malignancy; of the other also, after an interval of two months, and in this manner a third one, a fourth one, etc., after intervals of three, four, five, six, seven, eight, nine, ten months. This is where I stop. It is remarkable as the experiment proves, that the virulences are always similar to those of the virus which serves in the preparation of the sealed tubes. But for the samples exposed to the air, we find that they are dead by this time, or possessed of the feeblest malignancy.

The question proposed to us is accordingly resolved; *it is the oxygen of the air which weakens and destroys the malignancy of the virus.* Very likely there is here something more than an isolated fact; we are doubtless in possession of a principle. We have reason to hope that an inhering action of the oxygen of the air, a natural force present everywhere, will show its efficacy on all other viruses. It is, in any case, a circumstance of interest the possible extensive generalization of this method in order to diminish the virulence of diseases, borrowing its virtue from an influence in some sort atmospheric. Have we not a right to presume, from this day, that we must refer to this influence, the limitation of great epidemics in our days as well as in the past? The facts which I have just had the honor to present to the Academy, suggest numerous inductions, proximate or remote. I will believe myself authorized to publish them if I succeed in turning them to demonstrated truths only. H. D. V.

EXPERIMENTS ON THE CERVICAL PORTION OF THE SYMPATHETIC. A Note of Messrs. Dastre and Morat, presented to the Institute, by M. Gosselin.

All that is known of the functions of the sympathetic nervous system is based, almost exclusively, on two experiments of Parfour du Petit (1727), and those of Cl. Bernard and Brown-Séquard (1851). Parfour du Petit demonstrated the ascending direction of the nervous fibers in the cervical portion, a purely

anatomical fact. The experiments of Cl. Bernard show the *vaso-constrictor* nerves contained in the cervical sympathetic, whose office is to constrict the blood vessels. The facts which we communicate to the Academy complete these notions and demonstrate the existence of *vaso-dilator* nerves in the same, which antagonize the preceding.

The experiment which establishes this result is that of Cl. Bernard itself, which was a repetition of Parfour du Petit's. Cl. Bernard stated that physiologists before him, as well as himself, for some time, had repeated the famous experiment of Parfour du Petit without discovering its most striking result; it is our turn to add that every physiologist has repeated Cl. Bernard's experiment without discovering its most striking result, at least whenever it is performed on the animal most experimented on, the dog. While all current notions were prevailing against our investigation, the chain of our experiments led us to the discovery of truth.

Here it is. Whenever the cervical sympathetic is irritated, there is produced a primative dilatation, immediate, often enormous, of the blood vessels in the corresponding half of the buccal cavity, that is, in the mucous membrane of the palate, the gums, the lips, and in the integument of the lips and cheeks; in the blood vessels of the upper and lower jaw. The redness becomes intense, and other signs of the dilatation of the vessels appear, as heat, tumefaction, straightening and *umbilication* of the hair. All this is limited to that half of the face corresponding to the irritated nerve. They disappear almost immediately after the irritation has ceased. A definite line separates the scarlet-red region from the pale side, and what makes the phenomena still more remarkable and significant is, the paleness of other organs of the same side, the ear and half the tongue, while those alluded to above are red and congested, in such a way that the contrast in the color of the two sides of the tongue is the reverse of the contrast between the colors of the two sides of the buccal cavity and renders it more striking. These phenomena constantly recurred in our experiments, and are so evident as to be worthy of demonstration before a class, under favorable conditions, that is, provided the mouth be slightly pigmented, the nerve in a con-

dition of rest, and the animal be quiet, or rendered motionless by a small dose of curare.

Were these experiments less evident, their result would be called paradoxical, since they are exactly opposed to the current notions based on the experiment of Cl. Bernard and Brown-Séquard. But, we hasten to say, that it does not contradict that famous experiment more than the latter did that of Pourfour du Petit; they simply complete it. The researches which we pursued since four years, regarding the innervation of blood vessels, led us to the discovery of the first cutaneous vaso-dilator ever announced, that of the ear; and we found it in the sympathetic. In the same manner, we found in the sympathetic the dilators of the lower extremity, of the upper extremity and various viscera; finally, the origins of the dilators of the bucco-labial region. It was while pursuing the course of the latter that we came to the cervical sympathetic. We knew already that they did not belong to the superior maxillary, which Jolyet and Laffont called, wrongly, a typical dilator, that they did not belong even to the nervous system of vital relations, since they were traced to the ganglion of Vieussens, and must be found in the sympathetic of the region of the neck.*

Regarding the sympathetic, Bichât contended that the passions were located in the organs of organic life, and R. M. Bucke, of London, Ontario, asserts that the moral nature of man is seated in the sympathetic system. The close relation between emotional changes and functional derangements of the various viscera led to this idea. "There is nothing new under the sun." Aristotle taught that man had three minds, one of which was seated in the abdomen. The notion that the heart presides over feelings is deeply rooted in the Christian mind, and probably refers to the sympathetic, since nerves alone are capable of sensation. Mr. Rabbinowicz translates thus an article of the *Talmud* of Babylon: "The kidneys give advices, the heart understands, * * the liver is the seat of anger, the gall-bladder throws bile on the latter and calms it, the spleen is the seat of laughter," etc.† It is a fact that diseases of the heart are often simultaneous with ex-

* Revue Médicale, 30 Oct., 1880.

† L'Union Médicale, Oct. 28, 1880.

alted sentiments, that a fit of passion reacts strongly on the circulation, etc. It is also believed by some, that the faculties of the brain are perfected at the expense of a fineness of sentiments. Persons noted for the soundness of their judgment are generally well known for their rudeness, lack of sympathy and of imagination. It would be worth while to examine the sympathetic at autopsies, on the insane, especially the melancholy, and compare the relative development of the same set of nerves in individuals of different temperaments.

M. Foster, in his Text Book of Physiology, third edition, p. 183, says: * * "Division of the cervical sympathetic on one side of the neck causes a dilatation of the minute arteries of the head on the same side, shown by an increased supply of blood to the parts." Then it may be questioned whether the *irritation* (*excitation*) of the French experimenters did not simply incapacitate the nerves, as after section. P. 440, ib, " * * * the numerous phenomena of disease, joined to the facts mentioned above, turn the balance of evidence in favor of the view that some more or less direct influence of the nervous system on metabolic actions, and so on nutrition, will be established by future inquiries."

ACTION OF CARBOLIC ACID UPON CILIATED CELLS AND WHITE BLOOD CELLS. (*Am. Jour. of Med. Sciences*, Jan., 1881.)

Since as far as statistical data are reliable, the results of operations, except in certain classes of cases (ovariotomy, etc.,) are equally good in the hands of those surgeons who use carbolic acid as a dressing agent only, as in the hands of those who adhere strictly to the Listerian doctrines and details, it is a matter of interest to know just what may be the effect of carbolic acid, in varying degrees of strength, upon living tissue. Its beneficial effect may be largely due to its direct action upon the tissues of the healing wound. For experimentation, ciliated and white blood cells were chosen by Dr. T. M. Prudden, since in these the effect of carbolic acid upon the vitality of cells could be most easily seen. He used solutions of varying strength, from 1-20 to 1-3200.

The most extended series of experiments was made upon the tissues of the frog; and less extended ones upon the blood of the rabbit and man. The result of the experiments shows that "carbolic acid in solutions of 1-100 and over, causes either immediately, or in a short time, cessation of vibration in living ciliated cells, with a rapid, characteristic disintegration of their protoplasm and death of the cell." With solutions of 1-50, the ciliary movement ceases in a few seconds, the movements becoming gradually slower and slower. If the movement of the ciliæ is languid, it is temporarily quickened when the acid is first brought in contact with the cell. As the ciliæ cease their motion, degenerative changes occur in the protoplasm of the cells. It is resolved into two kinds of material—one clear, transparent and feebly refractive; the other strongly refractive, appearing as shining globules. "The nucleus shrinks, not infrequently exhibiting, as it does so, distinct movements in the intra-nuclear network; and especially noteworthy in solutions of this strength is the development in a large number of the cells, within a few minutes, of a wedge-shaped, more or less refractive, sharply outlined network, extending from the ciliary border to the nucleus, within which are sometimes seen delicate parallel lines, perpendicular to the free border of the cell. This peculiar network, lying invariably between the ciliary border and the nucleus, and never extending below the latter, would suggest a difference in the structure of the protoplasm in this part of the cell which is not without significance in view of the present uncertainty of our knowledge concerning the relations between the ciliæ and the nucleus and cell body. The shining globules tend to coalesce and gather outside the cell body within the first forty-eight hours."

"In very diluted solutions (1-400 to 1-3200), carbolic acid may cause, if long continued, slight degenerative changes in the protoplasm and the death of the cell; but its most noteworthy action is its inhibitory effect upon ciliary movement. This may be retarded by it, or even entirely checked, without necessarily determining the death of the cell, for on its replacement by an indifferent fluid, the movement may be perfectly re-established and continue indefinitely." These phenomena seem equally true

of cells observed *in situ* and of those scraped from their place and teased apart.

The white blood cells were examined, not only when removed from the vessels, but also in the vessels of the tongue, mesentery and bladder of the frog. If the white corpuscles, while being examined in the glass slide, be irrigated with a 1-100 solution, amœboid movement ceases almost instantly, and very soon the protoplasm breaks up into larger and smaller strongly refractive granules or globules, and a finely translucent substance which retains the form of the shrunken cell. The nucleus is more or less jagged in its outline. With weaker solutions the same phenomena are to be observed, but they are developed much more slowly.

If those which have been treated with weak solutions, and whose movements have been stopped, are washed clean with a neutral solution, the movements will usually return.

If a freshly exposed bladder be irrigated with a solution 1-50 to 1-100, it soon becomes cloudy, and stasis will occur almost immediately in the capillaries, gradually extending to the smaller and larger veins and arteries. The red blood cells lose their symmetrical form, becoming permanently cut and curved and occasionally swollen. Sometimes they will cling closely to the sides of the vessel. To these others are joined in little heaps, thus partly blocking up the tubes, or, instead of being thus piled up, the red cells may lie along the wall, side by side, in a single or double layer, thus making a cylindrical investment around the blood current, which still flows, but with impaired velocity. Gradually, however, more and more accumulation takes place, until, finally, the current is stopped. Thus thrombi and emboli are formed partly, as is evident by changes in the red blood cells. The white cells, under these circumstances, do not collect in the peripheral zone of the current, but are mingled indiscriminately with the red ones. They invariably retain their round form. This condition, which has been called "globular stasis," does not undergo resolution, if far advanced.

With solutions of 1-800 to 1-3200 there seems to be no tendency to stasis or thrombosis. If a solution of 1-1600 be used, there is a slight dilatation of both arteries and veins, which seems

permanent as long as the part is exposed to the carbolated solution. No change in the capillaries is observed. The current is also at first slightly accelerated, but then becomes slower than normal, and so continues. At first the normal peripheral and axial currents are observed. A greater or less number of white blood cells may be seen rolling or gliding along the walls and even adherent to them. Soon, however, the peripheral zone becomes less and less distinct, and the axial becomes broader. The white cells, which were at first attached to the walls, are loosened, and are carried off by the current. Those which drag along the periphery are mostly globular, and exhibit but slightly the well known appearance of stickiness. This condition lasts as long as the carbolated solution is applied, but the normal phenomena will return if the carbolic acid be washed off with an indifferent fluid. No structural changes could be seen in the white blood cells which had been rendered quiescent in the vessels by solutions as diluted as 1-1600.

It is, therefore, evident that even weak solutions of carbolic acid have the power of checking the emigration of the blood cells; and thus a "part of its favorable action in restraining suppuration may be accounted for, at least in so far as pus is the result of the emigration of the blood cells."

SURGERY.

SURGICAL ANALGESIA. Dr. Bossis. (*Le Praticien*, Sept. 20, 1880. Page 454.)

Under the name of surgical analgesia Dr. Bossis describes insensibility to pain, accompanied by persistence and followed by the integrity of the intellectual faculties and consciousness; it is easily obtained by injecting 15 milligrams of morphine and inhaling twenty minutes after a very little choloroform. Here are the conclusions of M. Bossis:

1. There can be obtained in man, with a little attention, by the combined action of chloroform and morphine, a state of complete insensibility to pain, with the conservation at least partial of his intelligence, tactile, auditive and visual sensibility, and

voluntary movements. We propose to call this state *surgical analgesia.*

2. In a practical point of view the analgesia obtained by the combined action differs completely from the semi-anæsthesia obtained by chloroform or ether employed alone, in that it is not preceded nor accompanied by a period of hyperæsthesia, with violent excitation and tendency to the exaggeration of reflex action of the heart, and, in consequence, syncope. The anæsthesia is quite comparable to the period of tolerance of chloroform employed alone.

3. This procedure, joined to the benefits of the combined action, in the initial period, has the great advantage of avoiding the dangers which accompany or follow complete anæsthesia.

4. Thus far the employment of analgesia has proven quite free from danger. However, before the question is definitely settled, new researches are needed; awaiting the advantages which it promises this study merits the attention of surgeons.

SURGICAL TREATMENT OF HYPERTROPHIED PROSTATE. (*Le Praticien*, Sept. 20, 1880. Page 453.)

M. Lefevre, of Louvain, uses in this affection so rebellious to treatment, a compressor with two branches. The one is introduced like a catheter by the urethra; the other enters the rectum; the two branches are articulated after the manner of forceps, and allow one to subject the largest portion of the gland to the effect of an intense compression. M. Lefevre also uses a catheter provided with a reservoir of oil, which on account of this abundant lubrication on the spot, allows the instrument to readily pass into the bladder.

PRACTICAL MEDICINE.

LACTIC ACID IN CHRONIC CYSTITIS. (Deecke, *Revue de Thér. Méd-Chir* and *L'Union Méd. du Can*, Oct., 1880. Page 447.)

Of all the acids which Dr. Deecke has tried in the treatment of chronic catarrh of the bladder, lactic acid appears to him to be the most efficacious, and to give the most durable results. His formula is as follows: lactic acid, 1 to 2 grams, sweetened

water q. s. Dissolve. To be taken three times a day. The sweetened water may be replaced by butter-milk or a bitter infusion. The lactic acid is found in the urine after the ingestion of three or four grams. It arrests rapidly the ammoniacal decomposition of urine in the bladder as well as outside of this organ, dissolves the salts which abound there, destroys the microscopic vegetables which develop there, and in consequence acts efficaciously upon the catarrh of chronic cystitis.

CHLORAL AS AN ANÆSTHETIC FOR CHILDREN. (M. Rédier. *L'Union Médicale du Canada*, October, 1880. Page 459.)

The author remarks that children enjoy a peculiar tolerance of chloral by which they are able to bear four or five grams several days in succession, while the same dose would be badly supported by adults.

The doses, which appear necessary and sufficient to produce anæsthesia, are: from two to four years, 2 grams; from four to eight years, 3 grams; from eight to twelve years, 4 grams. The best mode of administration is a potion of 100 grams of equal parts of water and syrup of gooseberries taken at one dose fasting. It is best not to proceed to an operation (such as an extraction of a tooth, opening of an abscess, etc.) for an hour or an hour and a half after the beginning of the sleep, the anæsthesia being more complete after a certain time. The duration of the sleep is from four to five hours.

Chloral has been employed as an anæsthetic for long and painful operations, such as the correction of vicious attitudes and ankyloses (Bouchut); and even for an operation for hare-lip in a child of six years, to whom $2\frac{1}{2}$ grams of chloral had been given.

NOCTURNAL TERRORS IN CHILDREN. (Steiner. *Jour. de Méd.*, Sept., 1880. Page 414.)

The child generally awakes suddenly from one to three hours after going to sleep, with symptoms of the greatest terror; the face is agitated, the heart beats violently, the pulse is animated; not recognizing anything around, it remains deaf to the reassuring exhortations lavished upon it. Such is the expression of terrible

anxiety it manifests, that all its senses appear to be riveted to the impression produced upon it by some terrifying image; this tableau lasts a quarter of an hour, twenty minutes and even more; then the child becomes a little calmer, recognizes the persons around it and gradually falls asleep again under the influence of the reassuring words it hears, to awake in the morning lively and well, and unable to remember what has happened during the night. These nocturnal attacks present many different degrees as to violence and duration not only in different children, but also in the same child at different times; thus it may happen that the child awakes with a start, utters some loud unintelligible sounds, stares around with a frightened look, trembles slightly with its hands and feet, and in two or three minutes falls asleep, after which follows profuse sweating; in other cases the attack lasts an hour or more. The attack is often followed by copious evacuation of urine destitute of qualitative alterations. Rarely there are two or three attacks in a single night; in these cases ordinarily the fits are mild; the paroxysms are repeated some times in following nights, but generally there are intervals of weeks or even months. In none of his cases did Steiner discover convulsions.

Most of Steiner's cases were among children from three to six years of age, consequently in subjects past the period of dentition; worms could not be accused of being the cause, nor could gastric troubles, such as diarrhœa, etc. These cases were nearly all in children who were pale and anæmic or rachitic and scrofulous of which they bore the marks; added to this there was an exaggerated nervous excitability to which it is logical to relate the described manifestations.

The prognosis in the majority of cases is favorable; by improving the general nutrition and bringing to bear suitable physical and moral treatment, the trouble will disappear without leaving any traces. It is only when the paroxysms come on frequently and violently that this complex of symptoms should be regarded as the precursor of a grave cerebral malady and be treated as such.

The state of the general nutrition, of the physical and psychical education of the child should be especially inquired into. All

sorts of emotions should be proscribed, and especially terrifying emotions, emanating from exciting stories calculated to inflame the imagination of children. In case of frequent returns of the attack, the use of bromide of potassium associated with a feeble dose of hydrate of chloral at night, is particularly recommended (after West).

MORBID SWEATING. M. Bouveret, (*Jour. de Méd.*, Sept., 1880, p. 408.)

M. Bouveret, who has just been nominated *professeur agrégé* of the Faculty at Lyons, after a remarkable concours, has given a high degree of interest to the difficult subject treated in his thesis for the position. We mention a few of the most interesting points practically.

He mentions some very remarkable cases of ephidrosis or local sweating, generally but little known, but which are nevertheless important. For example, sweating of the legs, mentioned by Verneuil as a frequent sign of profound varices. There is a notable and habitual increase of the sweat, which is often accompanied by itching, eczema and erythema; the fact is important to note in the diagnosis of deep varicose veins which is often difficult.

Another singular example of local sweating is parotidian ephidrosis; it occupies quite exactly the region of the parotid gland, is not continuous, but generally intermittent and only appears at the time of eating, during mastication. The sweating sometimes extends beyond the parotid region, and is seen on the neighboring parts and even over a considerable portion of the face. In all the cases an injury is met with at the beginning of the trouble, a wound or opened abscess of the parotid gland. The duct of Steno is most often closed, but the phenomenon is not due to a transudation of the saliva as one would suppose. It is really a local sweating of reflex origin. Like that of the parotid region the facial ephidrosis is often reflex, and due to excitation of the nerves of taste.

The hypersecretion sometimes extends over the entire face, sometimes it remains unilateral; it has been seen exactly limited

to the region of the face supplied by the superior maxillary branch of the trigeminal. DeGraefe has seen four cases of palpebral ephidrosis. The skin of the eyelid presented a well marked hyperæmia, and on this red spot, when examined by a lens, one could see, in case of an effort or an emotion, a clear fluid escape from a multitude of little orifices. Ephidrosis finally may occupy one entire side of the body.

An habitual general hyperidrosis or hypersecretion may show itself in variable etiological conditions generally but little known, but among these hyperidroses, one of the most interesting is that of the menopause, which M. Liégeois has just studied very completely. It is a fact well known that at the epoch of the menopause, women are subject to flashes of heat and sweating; but what is less known is, that these sweats, though independent of any other affection may become morbid. It may not be the case always of women who no longer have their courses; the hyperidrosis may come earlier and appear at that period when the near approach of the menopause announces itself already by certain irregularities of menstruation. It is not always a passing convenience; M. Liégeois cites several cases where women were affected by it for several years; he was able, however, in most cases, to check it by the use of atropine. In most of these patients the hyperidrosis appeared especially towards the end of the night. M. Liégeois advises the administration of atropine some hours before the expected return of the sweating. Half a milligram is a sufficient dose; it is well to continue the medicine several days after the cure.

Beside these different forms of morbid sweats, M. Bouveret has studied those which are characterized by a peculiar color. Chromidrosis, for example, or blue sweat, so rare that its existence has been denied by many authors, is nevertheless a scientific fact. Like sweating of blood, this singular alteration of the sweat appears most often among that set of symptoms which characterizes the neuropathic state, hysteria. Frequently violent moral emotion is the occasional cause of it; nearly always the eyelid is first attacked, and by preference the lower one; the blue sweat may however appear in other regions, the feet, the axilla, the

epigastrium, the forehead, the cheeks; the ears are always spared. Sometimes the blue coloration extends over large surfaces; sometimes it is developed in little patches of the integument. The color varies from blue to black, passing sometimes to deep violet. The abnormal secretion proceeds by successive attacks, returning at variable intervals, generally preceded, as in the first attack, by disorders of the menstruation, by local derangements of the circulation or of sensibility. The coloring matter which gives the special aspect to this secretion is analogous to indigo, and its secretion seems to be produced under the influence of a vasomotor trouble.

The same is true of hematidrosis, a phenomenon very much discussed and of which the labors of M. Parrot especially have clearly shown the nature.

The sweating of blood which shows itself nearly always in hysterical women, may occupy very variable extents of the integument, sometimes oozing out in droplets, sometimes in the form of filiform jets; the liquid is composed of blood containing all its elements. It is intermittent, proceeds by steps, coincident with painful eruptions of the skin. These hæmorrhages are never alarming from their abundance; moreover the fluxes of blood in hysteria often enjoy the singular privilege of not compromising the health or the life by reason of their quantity for the hematidrosis should be regarded as a sort of hæmorrhagic hysteria, all the more as it accompanies, in many cases, hæmorrhages of the stomach, of the uterus, of the bronchia, of which the neuropathic nature can not be doubted; its existence, on the contrary, is doubtful except in hysteria.

We cannot dwell longer upon the different parts of the interesting work of M. Bouveret; we mention only that one chapter is consecrated to treatment in which the remarkable and nearly constant effects of atropine, administered according to the method of M. Vulpian, are clearly demonstrated. It is also shown that in a good many diseases, far from respecting profuse sweats as a useful symptom, on the contrary, one should combat them; this should be done especially in acute articular rheumatism, where the abundant sweats may be suppressed without inconvenience.

HYDROPHOBIA. (Bouley. *Hygiène pour tous*, and *L'Union Méd. du Canada.*) Oct., 1880, p. 448.

On the occasion of a very interesting report of a case of hydrophobia, by Prof. Haveley to the *Acad. de Médecine*, M. Bouley, inspector general of the veterinary schools of France, formulated this great truth:

"*The best way to prevent attacks of this redoubtable malady is to understand it.*"

This knowledge, the readers of *Hygiene for All* will have the good fortune to owe to M. Bouley himself, who has kindly authorized our editor-in-chief to reproduce the *résumé* of his work on *Hydrophobia, the means of avoiding its dangers, and of preventing its propagation.*

Here is the tableau of the characters of hydrophobia, as the eminent professor of the museum has so ably indicated them.

I. The madness of the dog is not characterized by fits of fury in the earlier days of this manifestation. On the contrary, it is a disease of benign appearance at first; but from its beginning, the saliva is virulent, that is, it contains the inoculable germ, and the dog is then much more dangerous from the caresses of its tongue than it may be from its bites, for it has as yet no tendency to bite.

II. At the beginning of its madness, the dog changes its temper; it becomes sad, sober and taciturn, seeks solitude and retires into the most obscure corners. But it cannot remain long in one place; it is unquiet and agitated, comes and goes, lies down and gets up, roams around, smells, hunts about, scratches with its fore feet. Its movements, its attitudes and its gestures seem to indicate that, for the moment, it sees phantoms, for it bites the air, springs forward and howls as if it were attacking real enemies.

III. Its look is changed; it expresses a sombre sadness and something of the ferocious.

IV. But in this state the dog is not at all aggressive toward man; its character is what it was before. It is docile and submissive to its master, whose voice it obeys, showing some signs of gaiety which bring back, for an instant, the usual expression to its physiognomy.

V. Instead of aggressive tendencies, they are often the contrary, which are manifested in the first stage of madness. Affectionate sentiments toward its masters and familiars about the house are exaggerated in the mad dog, and it expresses them by repeated movements with its tongue, with which it is eager to lick the hands or faces of those it can reach.

VI. This sentiment, very highly developed and very tenacious in the dog, dominates it so much, that in many cases it respects its masters, even in a paroxysm of rage, and so much that they, moreover, preserve great control over it, even when its ferocious instincts commence to manifest themselves and the dog abandons itself to them.

VII. The mad dog has not a dread of water; on the contrary, it is eager for it. As long as it can drink, it satisfies its thirst which is always great; and when spasm of its fauces prevents its swallowing, it plunges its nose into the water and bites, so to say, the liquid which it is unable to swallow. The mad dog then is not *hydrophobic; hydrophobia* is not then a sign of madness in the dog.

VIII. The mad dog does not refuse its food in the first period of its malady; often even it eats more voraciously than usual.

IX. When the desire to bite, which is one of the essential characteristics of the disease at a certain stage of the development, begins to manifest itself, the animal satisfies it at first upon inert bodies. It gnaws the wood of doors and of furniture, tears clothes, carpets, shoes, grinds straw, hay, hair, wool, between its teeth, eats the ground, and the dung of animals, even its own etc., and accumulates in its stomach the dêbris of everything with which its teeth have come in contact.

X. The abundance of the saliva is not a constant sign in the mad dog. Sometimes the mouth is moist, sometimes dry. Before the period of fits, the secretion of saliva is normal; it is exaggerated during this period and dries up at the end of the disease.

XI. The mad dog often expresses the painful sensation it feels from spasm of the fauces, by making with its forefeet on each side of its cheeks the peculiar gestures which a dog does in whose throat a bone is lodged.

XII. In a peculiar variety of canine madness which is called

dumb madness, the paralyzed lower jaw is separated from the upper one, and the mouth remains open and dry with a brownish red color of the mucous membrane which covers it.

XIII. In some cases the rabid dog vomits blood which comes, in all probability, from wounds of the stomach caused by the sharp bodies which it has swallowed.

XIV. The voice of the rabid dog always changes in *timbre* and its bark is always completely different from its usual manner. It is rough, husky and is transformed into a jerky howl. In the variety called dumb madness this important symptom is lacking. The disease receives its name from the absolute dumbness of the patients; *dumb or mute madness.*

XV. The sensibility is very much diminished in the mad dog. When struck, or burnt, or wounded, it utters no complaints, nor cries by which animals of his species express their sufferings or even their fears simply. There are cases where the rabid dog makes deep wounds upon itself with its teeth, and assuages its rage upon its own body, without seeking to injure the persons with which it is familiar.

XVI. The mad dog is always very violently impressed and irritated by the sight of an animal of its own species. When it finds itself in the presence of one or hears its barking, its rabid fury is manifested, if it was still latent, or develops and increases if it was already declared, and it springs toward it to tear it with its teeth. The presence of the dog produces the same impression on animals of other species when they are under the influence of rabies; so that it is correct to say that the dog fills the office of a reactive agent, by the aid of which one may nearly always, with very great surety, bring out the madness still concealed in an animal which has it.

XVII. The rabid dog often leaves its home at the moment when, in the progress of its malady, ferocious instincts develop in it and begin to dominate over it; and after one, two or three days of wandering, during which it has sought to satisfy its rage upon all living beings which it has encountered, it frequently returns home to die with its master.

XVIII. When the madness has arrived at its period of fury, it is characterized by the impression of ferocity which it gives to

the physiognomy of the affected animal, and by the desire to bite which it satisfies every time an occasion for it is presented; but it is always against one of its species that it directs its attacks by preference to any other animal.

XIX. The rabid fury is manifested by fits, in the intervals between which the animal, exhausted, falls into a state of relative calm which may cause a doubt as to the nature of its malady.

XX. Healthy dogs seem to be endowed with the faculty of divining the rabid state of an animal of their species, and, instead of quarreling with it, they seek to escape its attacks by flight.

XXI. The rabid dog when free, attacks first, and with great energy, all living beings it may meet with, but always by preference a dog rather than other animals, and these rather than man. Then, when it has exhausted its fury by its attacks, it goes forward with a vacillating gait, with tail pendant, head inclined toward the ground, its eyes looking wild, and mouth open, from which escapes the bluish tongue covered with dust. In this state it does not have very aggressive tendencies, but it still bites everything, man or beast, that comes in its way.

XXII. The mad dog which dies naturally succumbs to paralysis and asphyxia. Up to the last moment, the instinct to bite controls it, and it should be feared even when exhaustion seems to have transformed it into an inert body.

XXIII. At the autopsy of a rabid dog there is nearly always seen in the stomach, a conglomeration of incongruous bodies, such as hay, straw, hairs, wool, shreds of cloth, pieces of leather, remnants of twine, tow, excrements, earth, leaves, grass, stones, everything which by their presence togather, have a great probative value of the existence of rabies in the animal in whom found.

XXIV. The surest means of preventing the effects of rabic inoculation is immediate cauterization, preferably with the red-hot iron, or lacking this, gunpowder or caustic agents. The sooner this cauterization is made the more one can count on its efficacy.

XXV. If the cauterization cannot be made immediately after the bite, one should, while waiting, wash out the wound, press very energetically to squeeze out the blood, sucking the wound,

rejecting very quickly the fluid drawn by the mouth, compress very tightly its edges continually, and apply if possible a circular ligature to arrest the circulation of the blood.

ON THE PRESENCE OF CERTAIN PROPORTION OF PRUSSIC ACID IN THE SMOKE OF TOBACCO, AND THE EXISTENCE OF A NEW ALKALOID. By Le Bon. (*J. de Therap., Sept. and Oct.*, 1880.)

The smoke of tobacco contains nicotina, carbonate of ammonium, various tarry substances, coloring matters, prussic acid combined with bases, aromatic principles strongly odoriferous and very toxic, aqueous vapor, various gaseous compounds, especially oxide of carbon and carbonic acid (carbonic anhydrid).

The toxic properties of tobacco smoke do not depend merely on nicotina, but on prussic acid, several aromatic principles, on a special alkaloid, *collidine*, a liquid with an agreeable odor, strong, and imparting to the smoke its peculiar odor, as much deleterious as nicotina.

But the vertigo, headaches and nausea, caused by various tobacco samples lacking in nicotina, are owing to prussic acid and various aromatic principles. Nicotina is not destroyed by the combustion of tobacco, and can be found largely in the smoke. The smoke of tobacco contains about 8 liters (17 lbs.) oxide of carbon for a 100 gr. (22 lbs.) of smoked tobacco; but the toxic qualities of tobacco are not owing to this gas as some German writers held.

The most certain results on man of the smoke of tobacco are visual troubles, palpitation, a tendency to vertigo, and specially an impaired memory.

DR. VIART read a paper at the academic seance of November 9, on The Treatment of Diphtheria. It is thus recapitulated:

1. Diphtheria (*angine couennense*) is a disease local at first, and most often becoming general only after the fourth or sixth day. A certain set of symptoms characterize it: *i. e.*, a brisk appearance of a false membrane in the throat, without pain nor any general reaction; a peculiar course, and the curability of the disease before it has become general. In twenty-six cases in

which the throat was cauterized after the removal of the false membrane, Dr. Viart obtained twenty-six cures.

2. The parts through which the disease makes its entrance are most always the free surface of the tonsils; yet, in children, it may start in the larynx, producing croup, which is very rare in the adult.

3. *Course.*—It is divided in two periods: the first extending to the sixth day, during which the disease can be destroyed *in situ* —it is the curable period; the second extends from the sixth to the tenth or twelfth day; the disease has been absorbed in the organism—it is the stage of danger.

4. This being agreed upon, it is wise to intervene, as soon as the disease is diagnosed, with an energetic local treatment and general treatment also; during the dangerous stage, an exclusively general treatment has to be relied upon; yet if it is not evident that the constitution is already affected, cauterization should be had recourse to even then, since it could do no harm.

5. The local treatment advocated by Dr. Viart, consists in the violent (harsh) destruction of the false membrane, with the index finger, wrapped in a piece of linen, and pushed into the pharynx with some amount of friction, and a cauterization of the bleeding surface with nitrate of silver. This treatment should also be accompanied by the use of chlorate of potassium internally and topically, the use of alcoholics, and a sustaining diet.

MENTAL STATE OF THE EPILEPTIC.

There are 40,000 epileptics in France, of which number 4,000 are in asylums, and 36,000 at large. Trousseau said, in 1855: "This is the disease most generally overlooked." There are several classes of epileptics: 1. The true epileptics; 2. Giddy epileptics; 3. Mental (larvés) epileptics; 4. Alcoholic epileptics. We will treat of the first three catagories.

1. *Epileptics, properly so-called.*—There are three varieties of them: (*a.*) Those whose intellect is not impaired; (*b.*) Those whose intellect is impaired momentarily; (*c.*) Truly insane epileptics.

In the first, most interesting and least studied class, the patient remains intelligent; nay, some may have their mental power

unusually developed. Famous instances are on record: Julius Cæsar, Petrarc, Newton, and Molière himself, seemed to belong with these.

The epileptic who commits a crime, obviously is not always irresponsible; before rendering a judgment in the matter, one must inquire into the mental state of the patient, whether he has more or less persisting troubles of the intellect.

2. *Giddy epileptics.*—After a simple vertigo, they may commit the most inexplicable crimes. There is a suspension of the function of the cerebrum lasting five or six seconds; a *between-the-acts* in their existence; after this is over, the epileptic often ends the sentence which he had begun before the attack, and is unconscious of the latter.

Following the crisis, the patient may utter nasty expressions, or he may have momentary cerebral disorders. It is hard to persuade law courts that a man in this condition may unconsciously do something immoral. This is called absent mindedness, an appropriate term. It is in such circumstances that some epileptics steal from the counters, even in the presence of guardians; others scald their hands in boiling water.

Trousseau had noticed two phases of epilepsy only: the giddiness, and the fit. Herpin, Voisin, Legrand du Saulle, have described the incomplete fit; an intermediary state; the patient stops, turns his head toward one side, his face becomes expressionless, red, and the muscles are contracted; the patient produces motions of deglutition; there is no initial yell, nor fall. The incomplete fit lasts from fifteen to twenty seconds; patients call it false fits; it is a prelude to a greater fit.

A patient, having had an incomplete fit, does not remember the facts; he thinks that he witnessed something horrible. A typical sign is, an unceasing repetition of the same word, peculiar to epilepsy alone; at times this may be obscene; it may take place during the night only.

Epileptics' impulsions are well known. These are mental acts consisting in an impulse to commit thoughtless actions. This is observed besides in hereditary mental diseases. It is quick, imperious, thoughtless, impressive; a kind of mental convulsion which is controlled by bromide of potassium.

True epileptics, giddy epileptics with partial attacks, are given to anger, to egotism; they love nobody, make it their aim to molest others, and are incapable of a pleasant action. They sometimes have an instinctive wish to run away, and they follow a straight direction; one of the most typical symptoms. Sometimes they have a sort of indescribable wrath. The furious excesses of epileptics resemble those of the maniacs; they crush everything in their way, and whenever they strike or kill, they multiply their strokes to an incredible amount. The epileptic tears his victim piece-meal, as no body else could do. Epileptics sometimes have a pathological religiousness; they have sacred visions, and then their hallucinatory character becomes absolutely mystical.

3. *Mental epileptics* (*larvés*).—These have eccentric characters. They have partial eclipses of intellect, with a sort of periodical course, and always do the same things in the same manner. It is, so to speak, a new photographic proof taken at each repetition of their fit. They have also automatic movements, but no peculiar accident of the body. This has been called mental epilepsy, by the Americans. The manifestation is wholly mental; it is a disease of the intellect. They do presumptuous actions; they abandon their position, change religion, take strange resolutions. If they remain long under observation, one will notice the periodicity of these fits. All this disappears under the use of bromide of potassium. This is a partial disease, the same as some eruptive affections without eruption, *variola sine variolis*. Crimes committed without any motive essentially belong to epilepsy.

Hippocrates, referring to *morbus sacer*, speaks of strange patients, having no fit, yet rushing out of their beds and running out at night. It seems from this that he knew mental epilepsy. Lasègne and Legrand du Saulle came across a striking example some years ago. A divorce *a toro* was asked for by a woman who complained that her husband (at night) would rise without any cause,* and would run out bare-headed and bare-footed even if it was freezing cold. Once he was away for eighteen months; another time he went aboard a ship at Havre, and found out what

* Le Praticien, 18 Oct., 1880.

he had been doing after reaching Bombay. This man, when questioned about his actions could not tell how they could happen so. It was evidently mental epilepsy; besides these singular impulses, his manners had nothing odd nor remarkable.

SIMULATIONS OF VENEREAL OUTRAGES ON YOUNG CHILDREN. (*L'Union Méd., Nov.* 6, 1880.)

A great deal of interest was manifested some time ago, in a paper read before the Academy of Medicine of Paris, by A. Fournier, with the above title. The author describes how he succeeded in exacting the truth from a little girl, and saved the reputation of an innocent victim. He recapitulates thus his considerations:

1. A certain number of facts exist, to which we may give the collective name of *simulation of criminal outrages on young children of the feminine sex.* These facts summarily consist in this: an artificial production on a little girl of lesions of the vulva which should resemble those of an outrage; and imputation of such an outrage to an imaginary author, for the benefit of the simulator.

2. Clinically, it is not impossible for these *artificial* lesions to betray themselves through some peculiarity, or some local incident. But this would be a fortuitous case; and, in principle as well as in practice, we know of no clinical symptom sufficient to differentiate with certainty an inflammation of the vulva occasioned by friction, from one resulting from a criminal outrage.

3. In cases of this class, the discovery of simulation will not depend so much on clinical phenomena as on other signs foreign to the medical art; the attitude, answers, hesitations, contradictions of the child, the antecedents of the simulator, various circumstances of the cause, etc.

4. That in case the physician, even while discharging his duty, should happen to discover the truth, he has more than a right, but it is a duty for him to overthrow a criminal accusation, and preserve the honor, the liberty, and the interests of an innocent individual.

5. It is important for the security of everybody, and to preserve the dignity of the profession, that in such affairs, the phy-

sician should issue certificates stating the lesions observed only when required to do so by a competent authority whose duty it is to get them; and it is not less important that, in that kind of certificates, the physician should confine himself to the description of the lesions observed, without venturing into the etiological interpretation of these lesions, which interpretation can hardly ever be inferred from the symptoms.

6. Various moral motives serve to inspire simulators in these cases. One of the most general is a monetary speculation, which is called *chantage au viol*, (black-mail) appropriately.

7. Lastly, inflammations of the vulva of various origins, most always spontaneous, have often been the basis of accusation of outrages; and it is not unusual that these illegitimate imputations have seemed justified, either by the unconscious answers of sham victims, or even by the false depositions of prematurely corrupted children.

TREATMENT OF WHOOPING COUGH BY THE INHALATION OF SPIRITS OF TURPENTINE. By Dr. Baréty (of Nice). (*L'Union Méd., Nov.* 4, 1880.)

About four years ago, I had to treat three children suffering from whooping cough in the same family. I was treating them with the common remedies, emetics, extr. of belladonna, syrup of codeia, etc., but without any marked result, when at the time when the spasms recur most frequently, I had an opportunity to make a most interesting discovery.

One of the children, precisely the one most severely attacked, was put to bed in a room recently painted, which gave a strong odor of oil of turpentine. From that time it happened that the crises became less intense and less fatiguing, and that the disease was much shorter in this case than in the others.

This occurrence impressed me vividly, and I did not doubt that the rapid improvement must be referred to the oil of turpentine which, escaping from the fresh paint, pervaded the atmosphere of the room and was breathed by the young patient. Accordingly I resolved in the future to try inhalation of spirits of turpentine. This I had opportunities to do many times successfully.

Here is my *modus operandi* : . I fill two deep plates half full with spirits of turpentine; I place one of them under the bed and the other in a corner of the room.

The child, or children, sleep in that room saturated with vapors of the spirits of turpentine, and spend a part of the day in it.

The spirit is renewed every time it is expedient. The air is renewed in the room once or twice a day.

The crises of spasms rapidly diminish, the disease takes a very mild character and hardly lasts a month on the average.

SALT AS A PROPHYLACTIC IN DIPHTHERIA.—In a paper read at the Medical Society of Victoria, and published in the *Australian Medical Journal* for June, 1880, "On the Free Use of Salt as a Prophylactic against Diphtheria," Dr. Day stated that, having for many years past looked upon diphtheria in its early stage as a purely local affection, characterized by a marked tendency to take on putrefactive decomposition, he has trusted most to the free and constant applications of antiseptics; and when their employment has been adopted from the first and has been combined with judicious alimentation, he has seldom seen blood poisoning ensue. In consequence of the great power which salt possesses in preventing the putrefactive decomposition of meat and other organic matter, Dr. Day has often prescribed for diphtheritic patients living far away from medical aid the frequent use of a gargle composed of a tablespoonful or more of salt, dissolved in a tumbler of water; giving children who cannot gargle a teaspoonful or two to drink occasionally. During the prevalence of diphtheria he recommends its use instead of sugar in the food of children, adults using the gargle as a prophylactic, three or four times a day.—*Medical and Surgical Reporter.*

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Feb. 7 and 21.
West Chicago Medical Society—Mondays, Feb. 4 and 28.
Biological Society—Wednesday, Feb. 2.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLII.—MARCH, 1881.—No. 3.

PHILADELPHIA SCHOOL OF ANATOMY.

Original Lectures.

ARTICLE I.

CLINICAL LECTURE DELIVERED DECEMBER 8, 1880, AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK. By Dr. A. Jacobi. (Reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER.)

Gentlemen:—Here is a little girl whose shoulder was dislocated some time last week. She was brought to this clinic at that time and the luxation was reduced, but the arm cannot yet be moved without pain, and the shoulder is still swelled. This is evidently not precisely the condition which we should expect to find one week after the reduction of a simple dislocation. As I press the head of the humerus into the glenoid cavity, I feel a crackling sensation by which I know that there is some synovitis present. Now, what shall we do for that? The arm must have rest of course, but is there nothing else to be done? Counter irritation, yes; but what agent will you employ? Some one says, the tincture of iodine. In an older person that might do, but in children the skin is very delicate, and I think that the tincture of

iodine would irritate too much. There is an officinal ointment of iodide of potassium, but I believe it to be nearly inert. I do not think that the drug could be discovered in the urine even after this preparation has been used for days, therefore I do not recommend it. But the iodide of potassium (1) may be dissolved in glycerine (2 parts) and rubbed into the skin. In that way it is effective; or iodine may be used dissolved in oleic acid, but there is an objection to that preparation, owing to the fact that the oleic acid sometimes cauterizes. What I frequently use is iodoform mixed with collodion, one to two parts of iodoform to twenty of collodion. You may cover the affected part with this preparation two or three times a day, or you may use the iodoform as an ointment. The chief drawback to the use of iodoform is its intolerable odor. The addition of a few drops of the aromatic oil of thyme or bergamot will render that less apparent. This child has, however, another ailment which you all doubtless recognize—whooping cough. It has only been manifest one week, the mother says, but in addition to that statement, she says that the child has had a cough for some weeks previous. Pertussis has a prodromal stage of about three weeks, during which it is impossible to diagnose it with certainty, but where the cough gets worse instead of better, and that in spite of good treatment, proper care, and rest at home, especially if there be whooping cough in the neighborhood, you may suspect whooping cough is present, and not an ordinary bronchitis. The whoop appears during the third week of the attack and is due to a spasm of the laryngeal muscles. Pharmacy has been exhausted in search of remedies for the disease, and almost everything has been given for the relief of the little patient, particularly the narcotics and sedatives. Chloral hydrate, since its introduction by Leibreich, has been used a good deal, but I use it only in single doses each night, giving seven or eight grains to a child a year and a half old. You may add fifteen grains of the bromide of potassium or sodium. Of the bromide of ammonium rather less, however. It has seemed to me that the sedative effect of the bromide of ammonium is less than that of either of the other salts. The attacks of coughing and laryngeal spasm are more frequent at night time than during

the day. After making use of nearly all the drugs which have been recommended for pertussis the drug which I have found most successful is the one which I used many years ago, and that is belladonna. It always fails when the practitioner does not know how to use it. It must be given to do good, either in sufficient doses or not at all. To give drop doses of the tincture to this child would be useless. The drug must be given in doses sufficient to flush the cheeks, say four drops three times a day. If you find that within fifteen minutes after taking the dose the cheeks become flushed and remain so for half an hour afterward, the dose is sufficient. After three or four doses, you may have to increase the dose. Do so, drop by drop, as it is possible that within a fortnight you may be compelled to give three times the amount with which you started. You may never see dilatation of the pupils, dry throat or tongue, or very rarely, as it is not common for children to be so affected. This is about the only treatment which I have ever found effective. In the first week I expect no improvement, but in the second week I do, and at the end of the month I expect the cough to have ceased. This case appears to be a severe one because the child bleeds at the nose, which shows that there is some obstruction to the circulation in the upper part of the body. It is necessary for you to be on your guard whenever, in these cases, you have hæmorrhage occurring from mucous membranes, for you are likely to have also cerebral or spinal hæmorrhages, and these are more likely to happen according as the child is younger.

Case II. Norman N., five months old. "What is the matter with this child?" "He cries all the time." "Is there nothing else that you notice wrong about him?" "No, that is all." Now the baby cries very loud, as you see, and that very fact would exclude pneumonia or pleurisy as a cause of the child's suffering, for suffer he undoubtedly does, else he would not cry. The pain which causes him to cry must evidently be situated in such a part of the body as not to be increased by the movements of breathing. Were it in the chest—as every movement of the chest-wall would increase it—the child would not cry lustily as this child does, but feebly and with a short cry. The pain then must be situated in the joints or in the abdominal cavity. We can exclude

earache, a very common cause of the incessant crying of children, because the cry *is* incessant always, which it is not in this case; besides, the child has had these fretful spells for some time, ever since she weaned him, which was some while ago, and if earache had been the cause of the child's suffering, it would have terminated in suppuration before now. The pains from which the child suffers are intestinal, and due to improper feeding, especially in relation to the interval between the meals. At first, the mother says, she had an insufficient supply of milk for the child, so that in the beginning the baby was starved. Then, after weaning him, she fed him on condensed milk. At present the bones of the head are soft. They may have softened after having once been normal, which is probably the case here. The mother says the child's bowels move only once or twice a day, which, in a child of this age, amounts to constipation. She also says in regard to the color of the passages that they are yellow, not white, but it never does to trust the statements of mothers implicitly, and I shall ask to see one of the passages. It is as I have said. The mother was in error when she said the passages were yellow. What I show you in this napkin is whitish, clay-colored, certainly not yellow. So the mother, knowing that children's passages are yellow, ordinarily when asked about her own child, says that his passages are yellow too. What, then, is the cause of these clay-colored stools? There is either something too much in the food, as fat or casein, or the liver secretes too little bile. I think that the child's food contains too much fat and casein both, and it appears to me that here is the root of the evil, the cause of the fretful disposition of this baby. The child has been fed on condensed milk diluted with water. Now, condensed milk contains an enormous amount of sugar, besides fat and casein. The normal passages contain eleven to sixteen per cent. of fat undigested, which proves that if mother's milk contained less fat it would still be as nourishing as now. The white appearances in this passage, are fat and coagulated casein. It would require the microscope to determine which preponderates. In cow's milk there is more fat than in mother's milk, and condensed milk of course contains fat and sugar in excess. Now, when there is so much fat in the passages, the fat and casein act

as irritants in the intestinal canal, and, setting up a fermentation, give rise to flatulency, which of course in turn is the cause of much uneasiness and pain. There is the solution of the problem, the reason why this child crys so lustily and kicks so much. What is to be done to relieve him? If the cause of the trouble is an excess of fat, of course the first thing is to reduce the amount of fat which he is taking. Some one suggests that he should take as an antacid, lime water. Now, lime water contains only one part of lime to eight hundred parts of water, and consequently is not able to neutralize much acid, certainly not as much as is contained in the digestive tract of the child. It does good to be sure, but not in that way, but in a different direction. Lime water will aid in the digestion of casein, but it is slightly astringent and therefore ought not to be given in this case where constipation already exists. The use of condensed milk should be discontinued and fresh cow's milk should be substituted, with the addition of some oatmeal water, in this case because of the tendency to constipation. Take the common Irish meal and boil it in a sufficient quantity of water so that you have a transparent mucilaginous liquid. Strain it, and, adding a little salt and sugar, dilute an equal quantity of boiled milk with it and let the child take this preparation in place of the condensed milk. For the first few days, an occasional hot poultice to the bowels, or hot injections of fennel, or chamomile infusions, or catnip tea freshly made, will relieve the intestinal pains. Small doses of Dover's powder one-third to one-fourth of a grain, once or twice a day, will have a good effect. But of course the main thing which is necessary to restore this child to a condition of health is a complete and radical change in the diet, for as long as it continues to be fed on materials which it cannot assimilate, it will suffer from disturbances of digestion, and as a matter of course cannot thrive. (A week afterward the baby was presented with marked improvement.)

ARTICLE II.

A CLINICAL LECTURE. By Samuel D. Gross, M.D., of Phila. Specially reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER.

INTERNAL PILES.— This is a trouble for which you will be very frequently consulted. You notice this little tumor on the verge of the anus. It is characteristic in its appearance, and is the cause of great pain. The man first noticed its appearance yesterday afternoon, following a passage accompanied by a good deal of straining. The tumor is uncommonly large for a pile. It is of the usual bluish color, and imparts a decided sense of tightness to the touch. Hemorrhoidal tumors are of two kinds, external and internal. The internal pile is within the sphincter ani muscle and consists of a knot of hypertrophied arteries and veins. It is commonly soft and spongy in texture. The external hemorrhoid is of a very different character. It is external to the sphincter ani muscle, but it is very often strangulated by the contraction of that muscle. It consists of an extravasation of blood from the hemorrhoidal vessels, is, in fact a sort of apoplexy at the verge of the anus. As regards the treatment of an external hemorrhoid, Erichsen of London, and Bryant of Grey's Hospital, advise its immediate removal with a knife. This is a truly villainous practice, and attended with great risk of obstinate hæmorrhage. The American surgeon incises the tumor with a bistoury and presses out its contents—*i. e.*, the contained clot of blood. The structure of an external hemorrhoid consists entirely of this clot of blood. The slight operation relieves the pain and tension at once. As an after-treatment the parts should be well bathed with cold water and some medicine given to act on the liver and bowels.

MALIGNANT DISEASE OF THE LIP.—This man is a farmer and 55 years of age. He always enjoyed good health until April last, when following a slight local irritation in shaving, a small wart made its appearance on the outer portion of the upper lip.

This wart gradually increased in size. The man consulted a neighboring physician, who laid the wart open and cauterized it every day for a month, with the result you now see,—a roundish, lobulated ulcer, giving forth a sanious discharge and causing frequent twinges of sharp lancinating pain. This ulcer extends from within one-half inch of the median line of the upper lip across the cheek bone, and one and a quarter inches to the left angle of the mouth, and from the border of the mouth to within one-eighth of an inch of the left ala of the nose. You notice this little nodule or tubercle on one side, which illustrates in an excellent way the mode of growth of the epithelial cancer, or carcinoma, showing how actively proliferation goes on.

On last Wednesday I operated on an epithelial cancer of the lower lip in a young man only 35 years of age. Cancer is rare at such an early age. It does not usually attack a person under the age of 50. The treatment in this case, will be, of course, the immediate removal of the growth. The man has been put thoroughly under the influence of ether while I have been speaking to you. The disease, in this instance, does not involve the mucous membrane of the mouth or lips. In cutting, I shall go as far as possible from the limits of disease. This will be a very nasty and bloody operation, and I am much afraid that the man will be pretty thoroughly out of the influence of the ether before I get through with the cutting. I begin by making a rectangular incision down to the bone, cutting well up on the cheek between the cancer and the left ala of the nose, and prolonging the left side of the mouth. Now that I have cut out all the diseased tissue, I proceed to take up the flesh along the canine fossa of the upper jaw-bone, and well up towards the orbit, so that I may slip my flap forward sufficiently. You will always have to expect great hæmorrhage in these operations on the lower parts of the face. Before bringing the flaps together, my assistants carefully tie all these spurting arteries. The hæmorrhage is still considerable, however, for no part of the body is more vascular than the face. By loosening the right side of the upper lip and sliding it well over, you see that I have succeeded admirably in filling up the gap. There may possibly be some slight deformity of the left corner of the mouth, but that will not make much difference,

particularly in the case of a man that can let his moustache grow to cover the scar. The mouth looks a little drawn up, but nature will bring it back into shape.

MOTHER'S MARK.—You notice this soft, elastic tumor over the upper portion of the left frontal bone. It is as large as an almond, and is traversed by veins. When the child cries the tumor grows hard and tense. This is what is vulgarly known as a mother's mark, a nævus materna. These tumors are called cavernous angiomæ, and consist of dilated veins, or arteries, or both—sometimes the veins predominate, sometimes the arteries. These veins and arteries are, of course, of capillary size. There are a great many ways of operating in a case like this. In a recent instance I tried to cut away the growth under the skin, so as to avoid a bad looking scar, but I found it of no use. On another occasion, I tried cauterization, heating the bulb of the cautery, and perforating the tumor in many places, but it did no real good. The proper way to treat such cases is the one I shall now adopt. I push two oiled pins right through the base of the growth so that they cross each other at right angles. I then take a sharp knife and cut a grove in the skin between the points of insertion and exit of the two pins, and then pass a stout ligature round the base of the nævus and underneath the pins. I draw this ligature just as tight as I possibly can, so as to completely strangulate the growth. When this is done the vessels of the tumor are obliterated, new matter is thrown out, and the tumor itself sloughs off in the course of four or five days, leaving an open, granulating wound, which must be protected by some mild ointment. Before dismissing the case I cut off the end of the pins, so that they will not catch in the clothing. There is no use whatever in temporizing in these cases by the use of the cautery, or by the injection of irritating substances into the body of the tumor.

SARCOMA OF THE CHEEK.—This man is a farmer, 57 years of age. About one year ago he first noticed a small swelling above the canine fossa of the lower jaw bone. The spot gradually became the seat of lancinating pains. Upon questioning the

patient I found that one of his brothers died of cancer of the lower lip. In spite of this local disease, the man's general health during the past year has been excellent; he sleeps well and has a good appetite. You see this irregular, ovoid swelling, extending from the upper lip almost to the orbit, and from the left ala of the nose all the way to the anterior border of the ramus of the lower jaw. This tumor is densely hard and immovably fixed. The mouth does not seem to be involved. The palatine process of the superior maxillary and the alveolus of the jaw bone are free from disease. There is no implication of the orbit. I do not yet know the condition of the nasal bones. When a tumor begins in or over the antrum it usually attacks the jaw in all directions. A cancer of the antrum highmorianum may arise from the glands of the mucous membrane, or from the periosteum. The various tumors occur in the following order, so far as frequency is concerned, viz.: sarcomas, carcinomas, fibromas, cysts and osseous growths. This tumor feels exactly like bone, and is perfectly immovable. Upon introducing my finger into the man's mouth I find that there is no extension of the disease into that cavity. I should say that this tumor originated with the soft layer of the periosteum. It may involve the malar bone. There is evidently incipient ossification in this case. Wherever there is ossification or calcification, we call the tumor osseoid. The osseoid sarcoma is one of the most malignant of all growths. In my late investigations into the malignant tumors of the long bones, I have found that sarcoma is malignant in 75-100 of all the cases. The skin in this case was thickened and disfigured by the application of a "cancer plaster" to the spot by some quack. This of course caused sloughing. I do not find any lymphatic involvement in this case. Malignant disease may exist to a very late period in its course without lymphatic involvement. Now that the patient is thoroughly under the anæsthetic, I shall begin by making a rectangular flap (the skin of the cheek is not at all involved), carrying my knife up along the edge of the nose to a point about an inch below the inner angle of the left eye, and from there well across below the eye towards the ear. I am working my way gradually from the surface towards the antrum. Sarcoma is most common in the

young, but is met with at all ages. My first diagnosis of the case was a correct one. It is a case of osseoid sarcoma of the outer layer of the periosteum of the antrum. The bone is no where involved. There is some slight deviation of the septum of the nose, but that is without doubt the result of a severe fracture of that organ, which the man received some time ago. In some rare instances (I do think it is the case here), there is an extension of the disease into the bone through the Haversian canals. I am gradually getting away all the diseased tissue, by means of this chisel. The bone is altogether sound, as are also the muscles. The alveolar process above the first molar is a little soft, but the softness does not extend to any depth. As I find some difficulty in stopping the bleeding from some of the smaller arteries, particularly those issuing from the bone, I shall have to leave the wound open for a while until the flow can be stanched. I will then bring the flaps together by twisted sutures. From present appearances, there will be very good coaptation of the parts.

ARTICLE III.

ABSTRACT OF A CLINICAL LECTURE IN THE MEDICAL WARDS OF THE MERCY HOSPITAL, FEB. 11, 1881, ON CASES OF ERYSIPELAS AND DIPHTHERIA. By N. S. Davis, Professor of Practical and Clinical Medicine in Chicago Medical College.

GENTLEMEN:—The first case to which I invite your attention is the same that you examined in Ward Number 36, two weeks since. The patient is a woman, aged about 30 years, usually enjoying good health. Three days prior to your first examination she had been attacked with sporadic erysipelas of the face, commencing with general fever and a red spot on the ridge of the right side of the face near the wing of the nose.

You will remember that when you saw her, three days after the initial symptoms, the erysipelatous inflammation had extended over the whole face, except the chin, causing sufficient tumefaction to close the eyes, and give the whole face, together with the right ear, a swollen and intensely red appearance. The pulse

was 110 per minute; respiration a little accelerated; temperature 103° F.; skin dry; tongue lightly covered with a white fur; urine scanty and highly colored; bowels inactive, and stomach so irritable as to dispose her to reject both drink and medicine. I then pointed out to you the diagnostic features of the disease, its supposed dependence upon a specific organic poison, and the remedies that experience has demonstrated to be of most value in its treatment; and I call your attention to it now, solely to enable you to know the subsequent progress of the case. The patient had been admitted into the ward two days before your previous visit, and had been given tincture of chloride of iron in doses of 1.500 grams every three hours, well diluted with water, and the inflamed surface covered with cloths wet in carbolated water.

The chief object of the latter was to mitigate the unpleasant heat of the surface, outward applications exerting little or no control over the progress of the disease, while the preparation of iron given internally was relied upon to correct the morbid condition of the blood and shorten the duration of the disease. But you will remember that the patient had not been able to retain the iron in the stomach, and in consequence, I told you we would substitute in its place the sulphite or hypo-sulphite of soda, which I had found by clinical experience to have some influence over the progress of this disease. It was accordingly given in doses of 66 centigrams, dissolved in mint water, repeated every two hours. This was continued three days, during which the inflammation continued to extend, occupying the whole head, face, and neck down upon the right shoulder. Although the disease thus continued actively to spread on the surface, the swelling of the face and eye-lids had begun to diminish; the stomach was retentive; the temperature was 101° F., and the tumefaction of the new parts attacked was slight, and presented but few vesications. But she complained of feeling very weak. The interval between the doses of the sulphite of soda was lengthened to four hours, and one gram of tincture of iron, with 13 centigrams of quinine given between, with milk and beef tea for nourishment. The inflammation continued to spread superficially down the posterior surface of the body to near the hips,

where it ceased and has since rapidly disappeared, the patient being now fully convalescent. You will perceive from the history just given that in this case the duration of the disease was just two weeks, and that it extended over a greater amount of surface than usual. Yet the intensity of the symptoms was much lessened from the end of the first week to the time of their disappearance.

DIPHTHERIA.—The next patient to whom I call your attention is this man, who was admitted into the Hospital one week since, having commenced feeling sick two or three days previously.

At the time of admission he complained of headache and severe sore throat. His pulse was 100 per minute; temperature 102° F.; skin dry; tongue coated; the whole arch of the fauces intensely red, tumefied, with a large, irregular ulcer on each tonsil, and two or three small spots of white membranous exudation on the margin of the ulcer on the left tonsil. Two or three of the lympathic glands on the sides of the neck below the tonsils were swollen and tender to pressure, the voice hoarse, and deglutition difficult. These symptoms seemed to indicate clearly enough a case of severe diphtheria with only slight membranous exudation, and an unusually early establishment of ulceration and general muscular weakness.

Treatment.—He was directed to take 1.5 grams of tincture of chloride of iron well diluted with sweetened water every two hours for twenty-four hours, and then every three hours thereafter, and to gargle the throat every three hours with a solution of benzoate of soda (8 grams to 200 grams of water). He was also directed to take 13 centigrams of sulph. quinine three times a day, and milk, with farinaceous articles for nourishment. This treatment was continued without change until yesterday, when finding the patient still having a moderate general fever, with continuous severe headache, and only a slow improvement in the appearance of the throat, the iron and quinine were omitted, under the impression that they might be increasing the headache, and in their place was ordered 66 centigrams of bromide with 33 centigrams of iodide of potassium every four hours. To-day he has less headache and some less fever; yet if

you examine his throat you will see that the uvula and whole arch of the fauces, with the tonsils, are still red and tumefied, with large, irregular ulcers on the face of each tonsil, but no white membranous exudation and no fœtid odor. The hoarseness and difficulty of swallowing are less than when first admitted, and the ulcers on the tonsils not so deep, but one or two glands on each side of the neck, beneath the angle of the jaw, are still slightly swollen. (The patient being placed in an easy position, with a favorable light, all the members of the Clinical class present were enabled to make personal examination of the throat.)

It is hardly necessary to remind you that cases of disease included under the name of diphtheria differ widely from each other in their degree of severity and in some of their more prominent symptoms. Some practitioners have fallen into the habit of calling almost every case of simple catarrhal inflammation of the fauces and tonsils, diphtheria. Others call no case diphtheria, unless it presents well marked membranous exudation on some part of the inflamed surface. The latter is, of course, much more nearly correct; and yet in almost all seasons, when diphtheria is prevailing with more than ordinary severity, a few cases will be met with characterized by the usual general febrile condition, a rapidly developed dark red and much tumefied condition of the fauces and tonsils, painful deglutition, and slight enlargement of some of the lymphatic glands below the angle of the jaw; but without any perceptible white exudation, or if any, it is in very small spots and soon disappears. By the second or third day, however, ulcerations commence on the tonsils, and often extend rapidly in circumference and depth, with corresponding increase in the gravity of the general symptoms, until the condition of the patient becomes critical. It is only yesterday that I saw a case of this kind in consultation with Dr. T. A. Lilley, in the southwest part of the city. The patient was a boy, about seven years of age, who had been sick eight days, the throat was extensively ulcerated; the margins of the ulcers dark red; the voice husky; deglutition difficult; a brownish, sanious discharge from the nostrils; pulse quick, soft and weak; expression dull and typhoid, with the mind wandering or delirious a

part of the time; yet no diphtheritic or white exhudation had been seen on the inflamed surface of the throat at any stage in the progress of the case.

In two cases belonging to this class, one a child, the other an adult, coming under my care, both tonsils were attacked with gangrene, accompanied by rapid prostration, and yet both ultimately recovered.

The case before us undoubtedly belongs to this class, the ulceration having commenced very early, preceded by only a very slight exhudation.

Regarding diphtheria in all its grades of severity as a general disease, caused by some specific influence or agent capable of disturbing the general properties of the tissues, altering the quality of the blood, and secondarily determining a specific inflammation of the fauces and glands of the neck, it has appeared to me of great practical importance to adopt such measures as were designed to counteract these effects at the earliest possible moment. As a general rule, the grade of morbid action induced, both general and local, is asthenic or depressing, as indicated by general impairment of tonicity and local ulcerations, followed, in the convalescence, by anæmia, muscular weakness, and sometimes paralysis. Consequently the treatment should be mainly antiseptic, corrective and tonic. As far as possible the patient should be supplied with an abundance of fresh, pure air, not overheated, but comfortable in temperature, and simple, easily assimilable food or nourishment, throughout the whole course of the disease, and until health is fully restored. Entire rest, mental and physical, should be enjoined during the progress of the disease, and over-exertion should be carefully avoided until the period of convalescence has fully passed by. In the first stage, which usually lasts from four to five days, I have found no remedies more beneficial than a combination of chlorate of potash, hydrochloric acid and belladonna, as in the following formulæ:

℞ Potass. chlor..... 10 grams.
Acid hydrochl..... 3 "
Belladonnæ tinct..... 8 "
Syrup. simpl..... 20 "
Aquæ..... 115 "

Mix. Take one teaspoonful every two, three or four hours,

according to the severity of the symptoms, for adults; and proportionately less, according to age, for children. In the milder class of cases this is all the medicine necessary during the first three or four days, unless the bowels should need moving, by a mild laxative or an enema. But in cases of medium or greater severity, I give, in addition, the benzoate of soda, dissolved in water, in the proportion of 10 grams of the first to 120 grams of the latter, of which an adult may take one teaspoonful between each of the doses of the chlorate solution, and children less in proportion. In cases of decided severity, in which the diphtheritic coating is accumulating rapidly, with corresponding increase of the glandular swellings in the neck, the application of dilute lactic acid in the form of spray to the fauces every three or four hours, and the application externally over the swollen glands, of a liniment containing chloroform, olive oil and oil of turpentine, will aid materially in checking the progress of the disease. In using the spray I put from three to five minims of the concentrated lactic acid to the ounce or 30 grams of water. The liniment consists of:

℞	Ol. oliv.....	100 grams.
	Ol. terebinth.....	15 "
	Chloroform.....	15 "

Mix. Shake up at time of application. When the first stage has passed, as indicated by commencing disintegration of the membranous exudation, and perhaps ulceration, more abundant and offensive secretion, and weaker pulse, the use of the benzoate soda should be omitted or restricted to merely local use as a gargle, and proper doses of the tincture of chloride of iron and quinine substituted in its place. The regular administration of nourishment, consisting of milk, thin wheat-flour and milk gruel, beef tea, mutton broth, etc., should be more persistently attended to. In very bad cases, where enough of such nourishment cannot be swallowed to sustain the patient, the rectum should be made available by using nutritive enemas, and in the same cases much advantage can be obtained by applying cod-liver oil, holding in suspension a little quinine, over a large part of the cutaneous surface every four to six hours. During the last year I have seen two children in consultation, whose recovery appeared to be

owing entirely to these latter means of support, for neither of them were able to take an ounce of anything by the stomach for more than a week. In the advanced stage of some cases accompanied by great nervous and vascular weakness, small doses of strychnine with nitric acid I have found more efficient than quinine. During the middle and latter stages of the disease I seldom make any local applications to the throat, except what the patient necessarily makes by swallowing in a dilute form such internal remedies as the tincture of chloride of iron, quinine and mineral acids. I do not believe that the disease originates locally from germs impinging on the mucous membrane of the the fauces and exciting inflammation, from whence the blood and system become inoculated, simply because in all the cases I have seen, symptoms of general disturbance have preceded the local appearances. After having tried, or seen tried by others, during a long series of years, almost every variety of treatment that has been suggested for the management of diphtheria, I am satisfied that a judicious use of the remedies just detailed to you, carefully adjusting each to the stage of the disease and condition of the patient, will result in more recoveries, and be followed by a less number of unpleasant sequelæ, than that of any other class of remedies. Even when the diphtheritic inflammation develops in the larynx, constituting diphtheritic croup, I have found more benefit from the frequent use of the lactic acid spray, one or two prompt emetics of the sub-sulphate of mercury in the beginning, and subsequently giving moderate doses of a solution of lactate of iron every one, two or three hours, according to the urgency of the symptoms, than from any other medical treatment. In these cases surgical treatment by tracheotomy may be available in some cases. In one of the cases I have alluded to, in which, instead of white exudation, gangrene showed itself almost from the beginning of the attack, accompanied by a weak and frequent pulse, much difficulty of deglutition, and general feeling of prostration, I prescribed at once salicylic acid and bicarbonate of soda dissolved in tincture of cinchona, to be given in doses of a teaspoonful, diluted with a tablespoonful of water, every two hours. The patient was a young man, and his progress was

much more favorable than I had anticipated. The gangrene speedily ceased spreading, the sloughs separated in three or four days, and the resulting ulcers healed so rapidly that the patient was fairly convalescent in two weeks.

But the clinic hour having expired, I must not detain you longer at this time.

THE NICTITATING MEMBRANE IN MAN.—Dr. John Dell'Orto read before the New Orleans Medical and Surgical Association, October 9, 1880, the following:

I am glad that this subject offers me the opportunity to speak now of another peculiarity—this is a physiological one—that has been lately discovered on two negro women by Doctor Giacomini, the actual professor of anatomy of the University of Turin (Italy.)

At one of the meetings of the Academy of Medicine, of last year, he said that at the autopsy performed on these two persons (who were mother and daughter) he found in the semilunar folds of the conjunctiva, or third eye-lids, the same cartilage, common to birds and some small mammifera. It has been generally admitted, that this cartilage does not exist in apes and man, in whom the semi-lunar is constituted by a folding of the conjunctiva with the interposition of a composed connective tissue. But during the last few years Professor Giacomini had the occasion to observe with the microscope transversal sections of the semi-lunar folds of the eyes of one *ourang*—of two *cercopiteci* and of one *cinocephalus*—and he found in every one the same small quadrilateral cartilage that he found in these two women. These facts induced him to investigate on white people—in 320 eyes, from 160 white persons, he found the cartilage only in one instance.—*New Orleans Surgical and Medical Journal*, Dec., 1880.

Original Communications.

ARTICLE IV.

CHLORAL HYDRATE. By H. H. KANE, M.D., New York.

Chloral Hydrate in the Treatment of Tetanus.—At the time when chloral hydrate was first introduced to the profession, and when it was being set forth as a cure-all for every known disease, it was tried in tetanus, and succeeded in effecting a cure in five cases in the hands of Verneuil,* and in other cases in the hands of other men. There were those then who, not content to give the drug a fair trial, prematurely proclaimed it as a specific for this affection. There are those at the present day who look upon it in the same light. That chloral is one of the most efficient drugs ever used in tetanus there can be no question, but that it is the remedy of remedies, and to be used to the exclusion of all other treatment, is absurd. Like other drugs that have been used in this affection, it succeeds best in those cases where the type of the disease is sub-acute. In certain cases it is of absolutely no value: in others it has proved a failure because an insufficient quantity was given: and in still others it has seemed to aggravate and increase the spasms.†

Knecht, in two very interesting articles in *Schmidt's Jahrbucher* for 1879, collected 389 cases of tetanus, both traumatic and idiopathic, treated in different ways, and carefully tabulated and analyzed them. As a result of this analysis, he gives the following table of percentages:

* *Gaz. des Hôpitaux*, 1874, pp. 516–519.

† H. P. Symonds (*Lancet*, *Medical Gazette*, Feb. 21, 1880.

No. Cases.	Treatment.	Recovered.	Died.	Mortality.
58	Surgical.....	30	28	48 per cent.
51	Curare	26	25	49 per cent.
60	Calabar	33	27	45 per cent.
134	Chloral	79	55	41 per cent.
63	Various..	32	31	49 per cent.

"To the 134 cases treated with chloral may yet be added twenty-three other cases in which this remedy was used in conjunction with other agents. Of these twenty-three cases, nineteen recovered and four died—the mortality of the entire number treated with chloral being thus lowered to thirty-seven per cent.

"The surgical treatment instituted in the fifty-eight cases consisted in amputations, stretching of nerves, etc."

To Knecht's statement that "to the 134 cases treated with chloral may be added twenty-three other cases in which the remedy was used in conjunction with other agents, etc., etc.," I take exception, for if we are to judge of the efficacy of chloral in this disease, we should study only those cases where chloral alone was used. Indeed, many of the cases given in Knecht's table as treated chiefly by chloral, were also treated with chloral and morphine, chloral and the bromide of potassium, chloral and chloroform, etc. In making up the table of the cases which I have collected, I have rearranged some of Knecht's cases, putting them in the second table. I have been able to collect 228 cases, treated by chloral alone, of which 134 recovered and 94 died.

TABLE I.

NAME OF REPORTER.	JOURNAL REFERENCE.	AGE AND SEX.	CAUSE.	DATE AFTER INJURY.	RESULT.	KIND.	TREATMENT.
1 Marcopoulos	L'Union, 29, 1873.	Young man	Shot in hand	15	R.		Chloral.
2 Bensasson	Do 95, 1871.	M., 13.	Traumatic		R.		Chloral.
3 Dorigo	Do do	M., 13.	Traumatic	20	R.		Chloral.
4 Grandisso—Silvestri	Do do	F., 8.	Traumatic	8	R.		Chloral.
5 Schutzenberger	Do do	M., 22	Cold		R.		Chloral.
6–12 Wiederhofer	Do do	Infants	Trismus Nascent		R.		Chloral.
13 Runge	Berlin Klin. Woch., vii, 39, 1870.	Adult	Traumatic	7	R.		Chloral.
14 Panthel	Deutscher Klin., 3, 1874.	M., 17.	Traumatic	5	R.		Chloral.
15 Bouchut	Gaz. des Hôpitaux 46–47, 1873	F., 12.	Traumatic	21	D.		Chloral.
16 Croft	Gaz. de Paris, 51, 1871.	M., adult.	Traumatic	12	R.		Chloral.
17 Culver	The Clinic, Aug., 1873.	M., 7.	Traumatic	7	D.		Chloral.
18 Croft	Gaz. de Paris, 51, 1871.	M., 9.	Traumatic	6	R.		Chloral.
19 Lovegrove	Brit. Med. Jour., Nov. 2, 1872	M., 19.	Traumatic	22	R.		Chloral.
20 Le Fort	Gaz. des Hôp., 62, 1870.	M., 34.	Traumatic	8	D.		Chloral.
21 Delsol	Gaz. Hebdom. 2 S., xi, 31, 1874	Soldier	Traumatic (gunshot wound)	12	R.		Chloral.
22 Do	Gaz. Hebdom. 2 S., xi, 31, 1874	M., 15.	Traumatic	15	R.		Chloral.
23 Do	Gaz. Hebdom. 2 S., xi, 31, 1874	Soldier	Traumatic (gunshot wound)	10	D.		Chloral.
24 Do	Gaz. Hebdom. 2 S., xi, 31, 1874	M., 24.	Traumatic	11	R.		Chloral.
25 Blin	Bull. Gén. de Thérap., 86, p. 549, June 30, 1874.	M., 23.	Traumatic	14	D.		Chloral.

26	Do	Bull. Gén. de Thérap., 86, p. 549, June 30, 1874.	Soldier	Traumatic	18	D.	Acute	Chloral.
27	Do	Bull. Gén. de Thérap., 86, p. 549, June 30, 1874.	F., adult	Traumatic	2	D.	Acute	Chloral.
28	Do	Bull. Gén. de Thérap., 86, p. 549, June 30, 1874.	Young man	Traumatic	8	R.	Acute	Chloral.
29	Bourdy	Bull. Gén. de Thérap., 86, p. 549, June 30, 1874.	M., 29	Traumatic	3	R.		Chloral.
30	Bavdon	Bull. Gén. de Thérap., 86, p. 549, June 30, 1874.	M., 13	Traumatic	2	D.		Chloral.
31	Do	Bull. Gén. de Thérap., 86, p. 549, June 30, 1874.	F., 64	Traumatic	7	D.		Chloral.
32	Do	Bull. Gén. de Thérap., 86, p. 549, June 30, 1874.	M., 23	Traumatic	8	D.		Chloral.
33	Mascaro, J. B.	Gaz. de Paris, 35, 1874.	M., negro, 30.	Traumatic	3	R.		Chloral.
34	Do	Do do	F., 5	Traumatic	7	R.		Chloral.
35	Chauvel	Record de Med. Milit, 38, xxx, p. 388, July and Aug., 1874.	M., 21	Traumatic (gunshot).	18	R.		Chloral.
36	Liégeois	Gaz. des Hôp., 62, 1871.	Young man	Traumatic (shot)	18	R.		Chloral.
37	Lavo, G.	Annal. Universal, ccxix, p. 305, fol. 72. Lancet. Mar. 30, 1872	M., 26	Traumatic	14	R.		Chloral and warm baths.
38	Do	Annal. Universal, ccxix, p. 305, fol. 72. Lancet, Mar. 30, 1872	M., 42	Traumatic	25	R.		Chloral and warm baths.
39	Do	Annal. Universal, ccxix, p. 305, fol. 72. Lancet, Mar. 30, 1872	M., 22	Traumatic	14	R.		Chloral and warm baths.
40	Huttenbrenner	Jahrb. für Kinderheilk, n. f. vii, 1, p. 34, 1873	Child 13 days.	Suppuration of navel		R.		Chloral dissolved in mother's milk.
41	Do	Jahrb. für Kinderheilk, n. f. vii, 1, p. 34, 1873.	Child 21 days.		8	R.		Chloral after 20th day.

TABLE I.—*Continued.*

NAME OF REPORTER.	JOURNAL REFERENCE.	AGE AND SEX.	CAUSE.	DATE AFTER INJURY.	RESULT.	KIND.	TREATMENT.
42 Huttenbrenner	Jahrb. für Kinderheilk, n. t. vii, 1, p. 34, 1873.	Infant.....	.....	.....	D.	.....	Chloral.
43–47 Giraldes...	Gaz. des Hôp., 62, 1871..	Soldiers	Traumatic	.....	D.	.....	Chloral.
48 Blot.....	Do do ..	Soldier.....	Traumatic.....	.....	D.	.....	Chloral.
49–50 Boinet....	Do 21, 1874..	Males	Traumatic.....	.....	R.	.....	Chloral.
51 Do	Do do ..	M.	Traumatic.....	.....	D.	.....	Chloral.
52 Do	Do do ..	M.	Traumatic.....	.....	D.	.....	Chloral. Died from hæmorrhage.
53–57 Verneuil...	Do do ..	Soldiers	Traumatic.....	.....	R.	.....	Chloral.
58 Ferrier.....	Do 112, 1874.	M., 61.....	Traumatic.....	9	D.	.....	Chloral.
59 Richelot.....	Do 65, 1874..	M.	Traumatic.....	2	R.	.....	Chloral.
60 Do	Do do ..	M., 36.....	Traumatic.....	10	R.	.....	Chloral.
61 Baizeau	Do 88, 1874..	Soldier.....	Traumatic (shot)....	6	D.	.....	Chloral.
62 Blain.....	Do 94, 1874..	F.	Traumatic.....	4	D.	.....	Chloral.
63 Do.	Do do ..	M., 24.....	Traumatic.....	8	R.	.....	Chloral.
64 Guyon.....	L'Union, 60, 1870.....	F., 29.....	Traumatic.....	11	D.	.....	Chloral.
65 Duplay	Do 85, 1874	M., 25.....	Traumatic.....	3	D.	.....	Chloral.
66 Coryllos (Patras)	Do 96, 1874.....	M., 46.....	Traumatic.....	5	R.	.....	Chloral.
67 Coryllos (Patras)	Do do	F., 40.....	Traumatic.....	30	R.	.....	Chloral.
68 Nicholls (West Indies).....	Med. Times & Gaz.. May 27, 1876.....	M., negro, 46 .	Traumatic.....	14	R.	.....	Chloral.
69 Nicholls (West Indies).....	Med. Times & Gaz., May 27, 186.....	M., negro, 20 .	Traumatic.....	7	R.	.....	Chloral.
70 Köhler	Deutsche Milit. Arztl. Ztschr., ii, 5, p. 267, 1873	Soldier.....	Traumatic (shot)....	8	R.	.....	Chloral.

71 Marin	Gaz. Lomb. xxxv, 7, 1875	M., 12	Traumatic	9	R.	Chloral.
72 Carrick	The Clinic, 13, 1874	M., 12	Traumatic	6	R.	Chloral.
73 Oré (Bordeaux)	Gaz. de Paris, 21, 1874	M.	Traumatic		R.	Chloral (intravenous).
74 Cruveilher	Gaz. des Hôp. 49, 1874	M., 33	Traumatic	15	D.	Chloral (intravenous).
75 Labbé	Gaz. de Paris, 21, 1874	M., 29	Gangrene	28	D.	Chloral (intravenous).
76 Tillaux	L'Union, 101, 1874	F., 46	Traumatic	10	D.	Chloral (intravenous).
77 Lannelongue	Gaz. des Hôp., 125, 1874	M., 13	Traumatic	8	D.	Chloral (intravenous).
78 Davis, G. W.	Letter to the author	Young man			R.	Chloral.
79 Rafferty	Phila. M. & S. Reporter, 24, 1874	M., 40	Idiopathic (cold and wet)	2	D.	Chloral.
80 Hansen	Dorp. Med. Ztschr., v, 8, p. 290, 1874	M., 40	Idiopathic (cold and wet)	1	R.	Chloral.
81 Wauthy	Jour. de Broux, Dec., 1875, p. 522		Operation	11	D.	Chloral.
82 Do	Jour. de Broux, Dec., 1875, p. 522		Traumatic	10	R.	Chloral.
83 Boucque	Presse Méd., 1876		Traumatic	16	D.	Chloral.
84 Cane, Leonard	Lancet, April, 1876	M., 28	Idiopathic	21	R.	Chloral.
87 Agelastos	Gaz. de Paris, 45, 1876		From cold		R.	Chloral.
88 Do	Do do		From cold		R.	Chloral.
89 Tueffard, L.	L'Union, 151, 1876		Traumatic	1	R.	Chloral.
90 Faulkner, Wm	Phila. M. & S. Reporter, Nov., 1876		Traumatic	12	R.	Chloral.
91 Bournet	L'Union, 75, 1876		From cold	2	R.	Chloral.
92 Sourier	Gaz. des Hôp., 46, 1876		Traumatic	17	D.	Chloral.
93 Durand, Cesar	Gaz. Hebdom		Traumatic	14	R.	Chloral.
94 Marchioneschi	Lo Sperimentale, Feb., 1876		Traumatic	8	D.	Chloral.
95 Kocher	Schweiz-Corr. Blat, vi 17, 1876	M., 45	Idiopathic	17	D.	Chloral. Refused to take after few days.
96 Dyer	Bost. M. & S. Jour., Mar. 1877, p. 306		Excoriation and cold	8	D.	Chloral. Tetanus nearly well. Death attributed to pneumonia, which had set in.

TABLE I.—*Continued.*

NAME OF REPORTER.	JOURNAL REFERENCE.	AGE AND SEX.	CAUSE.	DATE AFTER INJURY.	RESULT.	KIND.	TREATMENT.
97 Roberts, J. B..	Am. Jour. Med. Sci., Oct., 1877.....	M., 19	Traumatic (gunshot).....	.....	R.	....	Chloral.
98 Do	Am. Jour. Med. Sci., Oct., 1877.....	M., 5..... ...	Burns	7	D.	Acute	Chloral.
99 Do	Am. Jour. Med Sci., Oct., 1877.....	M , 35...	Traumatic.....	4	D.	Acute	Chloral.
100 Do	Am. Jour. Med. Sci., Oct., 1877.....	M., 45	Traumatic..	.....	R.	Acute	Chloral.
101 Do	Am. Jour. Med. Sci., Oct., 1877.....	M., 20.....	Traumatic.....	.....	R.	Sub-acute ...	Chloral.
102 Cargill, J....	Lancet, Aug., 1877.....	....	Traumatic.....	.....	R.	.....	Chloral.
103 Do ...	Do do	....	Suppurative stage of variola...	15	R.	Sub-acute ...	Chloral.
104 Beaumetz — Dujardin..	Bull. Thérap., Sep., 1877	M., 27	From cold..... ...	Same day	D.	.....	Chloral. Rupture of heart.
105 Alpago—Novello	Annal. Univ., Nov., 1877	....	Traumatic.....	.....	R.	Sub-acute ...	Chloral.
106 Alpago—Novello	Do do	M., adult	Traumatic.....	.....	R.	.....	Chloral.
107 Alpago—Novello	Do do	M., adult.....	Traumatic.....	.....	R.	....	Chloral.
108 Alpago—Novello	Do do	....	Traumatic..... ...	.....	D.	.....	Chloral.
109 Alpago—Novello	Do do	....	Traumatic	....	R.	.....	Chloral.
110 Pinoli	Do do	.. ..	Not stated.....	.....	R.	....	Chloral and warm baths.
111 Verneuil.....	Gaz. Hebdom., 1876.....	M., 47.....	Frozen feet	13	D.	.....	Chloral.

112	Do	Do do	M., 15.....	Traumatic.....	10	D.	.....	Chloral.
113	Fitzgibbon, H	Dublin Jour., Mar., 1877	M., 12.....	Traumatic.....	5	D.	.....	Chloral. Spasm apparently aggravated by chloral.
114	Duncan, G. C.	Canada M. & S. Jour., June, 1877.....	.....	Traumatic.....	8	R.	.....	Chloral.
115	Lawson, A...	Lancet, Feb. 16, 1878 ...	M., 9.	Traumatic.....	9	R.	.....	Chloral.
116	Krause, Robt.	Inaug. Dissertation, Breslau, 1878.....	M., 40..... ...	Frozen toes.....	.....	D.	.....	Chloral.
117	Do	Inaug. Dissertation, Breslau, 1878.....	F., 28.....	Frozen toes..... ...	.....	D.	.....	Chloral.
118	Medini, Luigi	Lo Sperimentale, 1878, p. 454.....	M., 31.....	Traumatic.....	16	R.	.....	Chloral.
119	Lorenzutti, Lorenzo ...	Annal. Univ., Nov., 1876	....	From cold.....	3	R.	.....	Chloral.
120	Luzatto B....	Lo Sperimentale, 1876..	F., 30.....	Traumatic..... ...	Few days.	R.	.....	Chloral.
121	Watson, Eben	Lancet, 1870..... ...	....	Traumatic.....	8	D.	.. ..	Chloral.
122	Nankwell ...	Do Mar., 1878.....	....	Traumatic.....	.....	D.	... ...	Chloral.
123	Do ...	Do do	....	Traumatic..... ...	8	D.	.....	Chloral.
124	Ribell.....	Annal. de Gynécol., 1875	F.	Post-partum	63	R.	Acute	Chloral (hypodermically).
125	Dufour.....	Bull. Gén. de Thérap., 1870, T. 78, p. 566.....	.. ..	Traumatic.....	8	R.	.....	Chloral.
126	Laurens	Practitioner, 1877, p. 142	Woman	Traumatic.....	8	R.	....	Chloral. Continuous sleep for eight days.
127	Lavo, G.....	Annal. Universal, Feb., 1872	....	Traumatic.....	25	R.	.....	Chloral and warm baths.
128	Maxwell, Allison	Am. Practitioner, Jan., 1880	M., 9.....	Traumatic.....	13	R.	Sub-acute ...	Chloral.
129	... .	Gaz. des Hôp., 1870.....	....	Traumatic	22	R.	.....	Chloral.
130	Johnson.....	Jour. Psycholog. Med., 1871.....	M., 13.....	Traumatic.....	9	R.	.....	Chloral.
131	Pugliere .	Practitioner, 1875, p. 299	....	Traumatic..... ...	.....	R.	Acute	Chloral.
132	Ballantyne ..	Lancet, 1870 (October)..	M., 34.....	Traumatic.....	12	R.	Acute	Chloral, and thorn removed from wound.

PHILADELPHIA SCHOOL OF ANATOMY

TABLE I.—*Continued.*

NAME OF REPORTER.	JOURNAL REFERENCE.	AGE AND SEX.	CAUSE.	DATE AFTER INJURY.	RESULT.	KIND.	TREATMENT.
133 Cruveilher ..	Le Progrès Méd., July, 1875	.....	Unknown.....	.....	R.	.....	Chloral.
134 Deu, A.....	Bull. Gén. de Thérap., 1875	.....	Traumatic.	9	D.	.....	Chloral.
135 Lawrence, A G	Lancet, June, 1871.....	F.....	Traumatic.....	1	R.	Sub-acute ...	Chloral.
136 Thompson, G.	Do April, 1871.....	M., 20	Idiopathic.....	.....	R.	.....	Chloral.
137 Eager.....	Do Mar., 1871.....	M., 23.....	Traumatic.....	19	D.	.....	Chloral.
138 Tyrrell.	Do May, 1871.....	M., 23....	Traumatic.....	7	D.	.....	Chloral.
139 Tait, Lawson.	Do Jan., 1871.....	M., 32.....	Traumatic.....	6	D.	.....	Chloral.
140 Gay, G. W...	Boston M. & S. Jour., Aug., 1876...	.....	Traumatic.....	10	D.	.....	Chloral.
141 Madden . ..	Dublin Jour., 1874, p. 583	F.	Puerperal.....	.....	R.	.....	Chloral.
142 Vilaplana....	Lond. Med. Record, Jan., 1877.....	.....	Traumatic.....	20	R.	.....	Chloral.
143 Salter, J. H..	Practitioner, Dec., 1876.	M., 38.....	Traumatic.....	11	R.	.....	Chloral (hypodermically).
144	Bull. Gén. de Thérap., 1870, p. 477.....	.....	Traumatic.....	.....	D.	.....	Chloral.
145	Bull. Gén. de Thérap., 1870, p. 477.....	.....	Traumatic.....	.....	D.	.....	Chloral.
146 Monette, G. N.	Med. Brief, Sept., 1877; Am. Jour. Med. Sci., Oct., 1875....	F., 2 yrs.....	From vaccinat'n that progressed badly..	27	R.	Sub-acute ...	Chloral.
147 Gueniot & Gamiez ...	Med. News & Library, Nov. 1877.	.....	Traumatic..	.....	R.	.....	Chloral.
148 Dunster, E. S.	N. Y. Med. Jour., 1871, p. 748.....	.....	Not stated.....	.....	D.	.....	Chloral.

149 Paget	N. Y. Med. Jour, 1871, p. 118		Not stated		D.		Chloral.
150 Broadbent	N. Y. Med. Jour., 1871, p. 118		Idiopathic		D.		Chloral.
151 Nichol, W. L.	N. Y. Med. Jour., 1870, p. 455	M., mulatto, 14	Traumatic	Few days.	R.		Chloral, after opium and bromide had failed.
152 Liebreich, O.	Berlin Klin. Woch., Oct. 24, 1870		Idiopathic		R.		Chloral.
153 Bellevue Hospital	N. Y. Med. Record, Jan., 1871	M., 9	Traumatic	9	D.	Acute	Chloral.
154 Bellevue Hospital	N. Y. Med. Record, Jan. 1871	M., 28	Traumatic	19	R.	Acute	Chloral.
155 MacDonald, A	Edin. Med. Jour, June, 1875	F.	Puerperal		D.	Very severe.	Chloral.
156 Knox, D. J. S.	Edin. Med. Jour., Jan., 1872	M., 17	Traumatic	28	R.		Chloral.
157 Laraux, Dubreil & Onimus.	Gaz. des Hôp., 68, 1870.	Man	Traumatic	17	R.	Acute	Chloral and continuous current.
158 Stutel	Do 1878, 942.		Traumatic	15	R.		Chloral.
159 Wirth, R.	N. Y. Med. Jour., 1870, p. 419	Man	Traumatic	14	R.	Sub-acute	Chloral, after morphine and opium had failed to affect.
160 Watson, Spencer	Lancet, Oct., 1870	F., 41	Traumatic	21	R.	Sub-acute	Chloral.
161 Langier (quoted by Labbé).	Bull. Gén. de Thérap., 1870, p. 330		Traumatic		D.		Chloral.
162 Bouchut	Bull. Gén. de Thérap., 1870, p. 330		Idiopathic		D.		Chloral.
163 Demarquay	Bull. Gén. de Thérap., 1870, p. 330		Traumatic		D.		Chloral.

TABLE I.—*Continued.*

NAME OF REPORTER.	JOURNAL REFERENCE.	AGE AND SEX.	CAUSE.	DATE AFTER INJURY.	RESULT.	KIND.	TREATMENT.
164 Limousin ...	Bull. Gén. de Thérap., 1870, p. 330...	... .	Traumatic.....	....	D.	.....	Chloral.
165 Liebreich ...	Bull. Gén. de Thérap., 1870, p. 330..... .	....	Traumatic.....	.....	D.	....	Chloral.
166 Langenbeck .	Bull. Gén. de Thérap., 1870, p. 330.....	... .	Traumatic.....	.....	R.	... ...	Chloral.
167 Dufour.....	Gaz. des Hôp., 65, 1870..	....	....	.....	D.	.....	Chloral.
168 Do	Do do ..	... .	.....	.....	D.	....	Chloral.
169 Do	Do 78, p. 566, 1870.	Man.....	Traumatic.....	8	R.	.....	Chloral.
170 Bleynie.....	Lancet, July 15, 1876....	M., 50..... ...	Traumatic..	12	R.	Acute	Chloral.
171 Bigelow, H. R.	Letter to author.....	M., 36.....	Idiopathic.....	.....	D.	....	Chloral.
172 Johnson, Geo.	Jour. Psycholog. Med. 1871, p. 150	....	Traumatic.....	21	R.	.....	Chloral.
173 Geens	Jour. de Broux, Dec., 1871	....	Traumatic.	.....	R.	.....	Chloral.
174 Weber, H....	Med. Times & Gaz., May 11, 1872.....	M., 35.....	Idiopathic.....	.....	R.	Sub-acute ...	Chloral, after use of morphia for two days.
175 Beck, J. R...	St. Louis M. & S. Jour., June, 1872.....	....	Traumatic..	7	R.	Acute	Chloral.
176 Cluness	Pacific M. & S. Jour., Apr., 1871.....	... .	Traumatic	.....	R.	.....	Chloral.
177 Tay..... ...	Brit. Med. Jour., Apr., 1870.....	... .	Traumatic.....	....	D.	.....	Chloral.
178 Peter, Preston	Am. Practitioner, Sept., 1870.....	....	... .	....	R.	....	Chloral.
179 Truckwell & Winckfield.	Lancet, Aug. 23, 1879...	M., 25.....	Idiopathic..	.....	D.	Sub-acute ...	Chloral.

180	Peele, Edward	Dublin Jour., Apr., 1879	M., 6	Traumatic	10	R.	Sub-acute	Chloral.
181	Macnamara	Practitioner, 1871		Traumatic		D.		Chloral.
182	Do	Do		Traumatic		D.		Chloral.
183	Do	Do		Traumatic		D.		Chloral.
184	Do	Do		Traumatic		D.		Chloral.
185	Do	Do		Traumatic		D.		Chloral.
186	Do	Do		Traumatic		D.		Chloral.
187	Do	Do		Traumatic		R.		Chloral.
188	Do	Do		Idiopathic		R.		Chloral.
189	Do	Do		Idiopathic		R.		Chloral.
190	Do	Do		Idiopathic		R.		Chloral.
191	Kilpatrick	Letter to the author	M., 14	Traumatic	11	R.		Chloral.
192	Garneis (Beck)	St. Louis M. & S. Jour., June, 1872		Traumatic		R.		Chloral.
193	Do	St. Louis M. & S. Jour., June, 1872		Traumatic		R.		Chloral.
194	Prewitt	St. Louis M. & S. Jour., Oct., 1876	M., 7	Traumatic	7	R.		Chloral.
195	White, Isa. H.	Letter to author	M., 25	Traumatic		R.	Acute	Chloral, after calabar bean had failed.
196	Byrce, C. A.	Do	M., 52	Traumatic		R.	Sub-acute	Chloral and milk enemata.
197	Miller, J. K.	Phila. M. & S. Reporter, Dec., 1877	M., 8	Traumatic	5	R.		Chloral, after belladonna and calabar bean.
198	Delmont, F.	Letter to author	M., 6	Traumatic	10	R.	Acute	Chloral.
199	Corme, Alf.	Lancet, Oct. 30, 1875	M., 19	Poisoned arrow	6	D.	Acute	Chloral. Morphia once or twice.
200	Boislinière	St. Louis M. & S. Jour., Oct., 1876	Infant	Trismus nascentium		R.		Chloral.
201		Gaz. des Hôp., 1877, p. 741	Woman	After removal of breast	22	R.		Chloral.
202	Arton, J. H.	Letter to author	M., negro, 16	Traumatic	10	R.	Sub-acute	Chloral.

TABLE I.—*Continued.*

	Name of Reporter.	Journal Reference.	Age and Sex.	Cause.	Date after Injury.	Result.	Kind.	Treatment.
203	Arton, J. H...	Letter to author.....	M., 10	Traumatic.....	10	D.	Acute	Chloral. Seen only 36 hours before death. Had previously been treated by valerian.
204	Do ..	Do	M., 12.....	Traumatic.....	10	D.	Acute	Chloral.
205	Roof, Stephen	Do	F., 9 days	Trismus nascentium.....		D.	.....	Chloral.
206	Chauvel.....	Bull. Gén. de Thérap., vol. 86, p. 422.....	.....	.....		D.	.....	Chloral.
207	Do	Bull. Gén. de Thérap., vol. 86, p. 422.....	.....	.....		D.	.....	Chloral.
208	Rasia, Dom..	Gaz. Med. Italiano, prov. Venetta, Dec. 25, 1875.	.....	Traumatic.....		R.	.....	Chloral.
209	F. Delmont..	San Buenuventa, Cal. By letter to author.....	.....	Traumatic.....		R.	.....	Chloral.
210	Linde, G. de la	El Genio Medico Quirurgico, Sept. 15, 1875...	.....	Traumatic		R.	.....	Chloral.
211	Do	El Genio Medico Quirurgico, Sept. 15, 1875..	.....	Traumatic.....		R.	.....	Chloral.
212	Tillaux.....	Gaz. des Hôpitaux, 1876, p. 211.....	.....	.....		R.	.....	Chloral.
213	P. Kretschmar	Personal communication	M., 17	.....		D.	.....	Chloral.
214	Do	Do do	Infant	Trismus nascentium.....		D.	.....	Chloral.
215	H. W. Boyd (Chicago, Ill.)	Letter to the author.....	.....	.....		R.	.....	Chloral.
216	Mr. Birkett..	Taylor, Guy's Hosp. Reports, 1878, p. 339....	M., 21.....	Traumatic.....	1	R.	Chronic	Chloral.
217	Mr. Hilton...	Taylor, Guy's Hosp. Reports, 1878, p. 339....	M.	Traumatic.....	11	D.	.....	Chloral

218 Dr. Moxon...	Taylor, Guy's Hosp. Reports, 1878, p. 349....	F., 43.	Idiopathic.....	.....	D.		Chloral; ten drachms in five days.
219 Dr. Forster..	Taylor, Guy's Hosp. Reports, 1878, p. 339....	M , 16.....	Traumatic.....	21	D.		Chloral.
220 Do ..	Taylor, Guy's Hosp. Reports, 1878, p. 339....	M.	Traumatic..	9	D.		Chloral.
221 Mr. Bryant..	Taylor, Guy's Hosp. Reports, 1878, p, 339....	M., 43.....	Traumatic.....	14	D.		Chloral and tracheotomy.
222 Mr. Forster..	Taylor, Guy's Hosp. Reports, 1878, p. 336....	M., 28.....	Traumatic.....	13	D.		Chloral. (Autopsy showed purulent mucus in bronchi.)
223 Dr. Wilks ...	Taylor, Guy's Hosp. Reports, 1878, p. 336 ...	F., 35.....	Idiopathic.....	1	D.		Chloral. (Bloody sweat.)
224 Mr. Durham.	Taylor, Guy's Hosp. Reports, 1878, p. 339....	F., 11.....	Traumatic.....	9	D.		Chloral.
225 A. Maxwell, (Indianapolis)	Letter to the author....	.....	Traumatic.....	.....	R.	Acute	Chloral.
226 R.L.Pinching (San Francisco)	Do do	.....	.....	.....	D.		Chloral.
227 R.L.Pinching (San Francisco)	Do do	.....	.....	.....	D.		Chloral.
228 L. C. Herrick (Woodstock,O.)	Do do	.....	.....	.....	R.		Chloral.

PHILADELPHIA SCHOOL OF ANATOMY

Total cases ...228	Males 119	Traumatic.....103	
		Idiopathic..... 10	
	Females..... 22	Traumatic..... 17	
		Idiopathic..... 2	
		Puerperal..... 3	
	Not stated and infants 87	Tetanus, infant... 12	
	228		

Total cases....228	Traumatic.....175	Males 103	
		Females.... 17	175
		Not stated..108	
	Idiopathic..... 21	Males 10	
		Females.... 2	21
		Not stated.. 9	
	Infantile tetanus.. 12		
	Puerperal tetanus 3		
	211		
	Not stated..... 17		
	228		

Recoveries ...134

Deaths 94	Males 45	Traumatic. 41	
		Idiopathic.. 4	45
	Females..... 11	Traumatic. 8	
		Idiopathic. 2	11
		Puerperal.. 1	
	Infants 3		
	Not stated..... 35		
	94		

In the second table, which I here give, various remedies were used, chloral, however, always entering into and playing a prominent part in the treatment. There are 98 cases in all, with 64 recoveries and 34 deaths, really a better showing than is to be had in those cases where chloral alone was used.

From the facts shown in Table II it can be plainly seen that success under the chloral treatment alone is not so great as that under a mixed treatment into which chloral largely enters, and consequently that this drug is by no means a specific in this disease; that males are more likely to be attacked than females,

and that of the females so affected a larger percentage than of the males die.

It is a noticeable fact, also, that the cases of tetanus occurring in hospital yield a very large percentage of deaths under any form of treatment. I am of the opinion that this is due to three things: 1st. That hospital patients are, as a rule, but poorly nourished. 2d. That these cases are usually of the acute type. 3d. That in many instances they are not brought into a hospital until the disease has been under way for from one to four days.

Tetanus, during war, has always yielded a very large percentage of deaths. McLeod,* "Notes on the Surgery of the War in Crimea," relates twenty-three cases, in which there were but two recoveries; and Demme* states that eighty-six cases treated in the Italian hospitals during the war of 1859 yielded but six recoveries. These were of course not treated by chloral.

Dr. O'Beirne* (Dublin Hospital Reports) gives 200 cases with no recoveries.

Some of the cases of tetanus occurring in both hospital and private practice, but especially the latter, are undoubtedly hysterical and would recover, sooner or later, under any plan of treatment. Dr. D. Webster Prentiss† gives the following rules for distinguishing true from hysterical tetanus.

In a case reported of the latter condition, he states that the points in the case marking it as hysterical were—

1. It was ushered in by noise in the ears, deafness and blindness.

In true tetanus and strychnia poisoning the senses are rendered preternaturally acute.

2. There was unconsciousness during the paryoxysms.

This never occurs in tetanus and strychnia poisoning, except as an ante-mortem condition.

3. The eyes were closed during the spasms. The eyes stare widely open in the other diseases.

* Quoted by E. C. Mann, N. Y. Med. Record, Jan. 16, 1875.

† Braithewaite's Quarterly Epitome, March, 1880.

TABLE II.

NAME OF REPORTER.	JOURNAL REFERENCE.	AGE AND SEX.	CAUSE.	DATE AFTER INJURY.	RESULT.	KIND.	TREATMENT.
1 Upshur, J. N..	Virginia Med. Monthly, May, 1880.....	M. (negro) 4..	Idiopathic....	.....	D.	.....	Chloral and bromides.
2 Do.....	Virginia Med. Monthly, May, 1880.....	.....	Traumatic....	17	R.	.....	Chloral, bromides and morphia.
3 Spence	Lancet, April, 1876.....	M., 5.....	Traumatic....	30	R.	.....	Chloral, potass. bromid., atropia and amputation of leg.
4 Groneman	Lancet, Feb., 1871.....	M., 44.....	Traumatic....	.....	R.	.....	Chloral and morphine.
5 Gay, G. W.....	Boston M. & S. Journal, Oct., 1877.....	F., 21	Traumatic ...	24	R.	.....	Chloral and potass. bromid.
6 Griffin, H.....	Practitioner, Feb., 1872..	F., 21	Traumatic....	22	R.	.....	Chloral, morphine and galvanism.
7 Boyd, M. A....	Dublin Jour., 1874, p. 583	F., adult.....	Puerperal	6	D.	.....	Chloral and chloroform.
8 Denton	Practitioner, 1870, p. 370.	Boy.....	Traumatic ...	.....	R.	.....	Chloral and other drugs.
9 Salisbury.....	Chicago Med. Journal, Dec., 1879.....	M., 16.....	Traumatic....	10	R.	.....	Chloral, potass. bromid., and towards the last, calabar bean.
10 Do.	Chicago Med. Journal, Dec., 1879.....	M., ...	Traumatic....	6	D.	.....	Chloral, potass. bromid., and towards the last, calabar bean.
11 Watson, P. E..	Lancet, Feb., 16, 1878...	F., adult.....	Idiopathic....	10	R.	.....	Chloral and atropia hypodermically.
12 Cushing, C....	Pacific M. & S. Journal, March, 1872.....	M., 5.....	Traumatic....	14	R.	Mild..	Chloral and calabar bean.
13 Shelley, A. W..	N. Y. Med. Jour., 1873, p. 262.....	F., 39..... ..	Traumatic ...	14	R.	.....	Chloral and morphia.
14 Maxwell, A...	Am. Practitioner, Jan., 1880.....	....	Traumatic....	.....	R.	Acute.	Chloral, morphia and atropia.
15 Leeds, O. H...	N. Y. Med. Jour., 1875, p. 393	F., 14	Traumatic....	15	R.	.....	Chloral and potass. bromid.
16 Do	N. Y. Med. Jour., 1875, p. 393.....	F., 28.....	Traumatic....	10	R.	S. A..	Chloral and potass. bromid.

17	.....	Annal. Universal; N. Y. Med. Jour., Vol. 25, p. 234..	.....	Traumatic....	.....	R.	.....	Chloral and jaborandi.
18	Ogle.....	N. Y. Med. Jour., 1871, p. 117	Boy.....	Traumatic....	3	R.	.....	Chloral, belladonna and ice to spine.
19	Curran, J. W..	Med. Press & Circular, Oct., 1870	.....	Traumatic....	....	D.	.....	Chloral and belladonna.
20	Molliere.....	Gaz. des Hôp., 1879.....	M., 25.....	Traumatic....	14	R.	Acute.	Symptoms caused after amputation, Chloral, bromide potass., morphia.
21	Royds, Wm...	Lancet, Dec., 1870.....	M., 25.....	Traumatic....	10	D.	.....	Chloral and calabar been. Death from hemmorrhage from wound from tetanus.
22	Do.....	Do do	M., 13.....	Traumatic....	.....	R.	.....	Chloral, chloroform and physostigma.
23	Bryant, Thos..	Do Nov. 2, 1872 ...	M., 19.....	Traumatic ...	19	R.	.....	Chloral; then chloral and morphia.
24	Martyn.....	Do Nov. 21, 1874...	M., 15...	Not decided...	.....	D.	Acute.	Chloral, potass. bromid. and ice to spine.
25	Hornby.....	Do Oct. 19, 1872 ...	M., 32.....	Traumatic....	3	D.	.....	Chloral, morphia and ice to spine.
26	Do.....	Do do	M., 40.....	Traumatic....	Fri.	R.	.....	Chloral and nicotine.
27	Duncan, A. E.	Cincinnati Med. News..	F., 19	Traumatic....	1	R.	Acute.	Chloral, chloroform during spasms.
28	Hunter, G. G..	Lancet, Feb. 6, 1875 ...	M., 13.....	Traumatic....	10	R.	.....	Potass. bromid, cannabis indica and small amt. chloroform. Chloral only as an hypnotic.
29	Hamilton, J. B.	Do Jan. 16, 1875 ...	M., 25	Traumatic....	14	D.	.....	Chloral and cannabis indica.
30	Smith, Spencer	Do May 22, 1875...	M., 27.....	Traumatic....	15	R.	S. A..	Chloral and potass. bromid.
31	Shinkwin, T.C.	Dublin Jour., Aug., 1875.	Young men	Traumatic....	13	R.	Acute.	Chloral (most benefit from) and calabar bean.
32	Southey	Lancet, Oct. 16, 1875....	M., 20	Idiopathic....	2	R.	.....	Chloral, finally abandoned for potass. bromid and conium.
33	Mackay, W. B.	Brit. Med. Jour., 1880...	M., 24.... ...	T. (?)	14	R.	Acute.	Chloral and belladonna.
34	.....	Hospital Gazette.....	....	.....	.....	R.	.....	Chloral and potass. bromide (enemata).
35	Roberts, H. P.	Lancet, May 20, 1876...	....	Traumatic....	4	D.	.....	Chloral (of no service), chloroform and morphia.
36	Do.....	Do do ...	....	Traumatic....	8	D.	.....	Chloral, chloroform and morphia.

TABLE II.—*Continued.*

	NAME OF REPORTER.	JOURNAL REFERENCE.	AGE AND SEX.	CAUSE.	DATE AFTER INJURY.	RESULT.	KIND.	TREATMENT.
37	Baker	Lancet, April 15, 1876	M., 29	Traumatic	13	D.		Potass. bromid, morphia and hyoscyamin first 3 days. Then chloral. Nerve was decided also.
38	Do	Do do	F., 29	Traumatic	11	D.		Chloral and chloroform. Finger amputated.
39	Benton, Sam'l	Lancet, Nov. 11, 1876	M., 31	Idiopathic		D.		Chloral, morphia and potass. bromid.
40	Do	Do March 24, 1874		Traumatic	9	R.		Chloral, potass. bromid and tr. opii.
41	Boon, A. T	Do July 28, 1877		Idiopathic		R.	S. A.	Chloral and calabar bean.
42	Duncan, T. G.	Am. Prac., Aug., 1870				R.		Chloral and calabar bean.
43	Kirchoff	Berlin Klin. Woch, 1879, No. 25	F., 52	Traumatic	6	D.		Chloral and potass. bromid in large doses. Thorn removed.
44	Kinsman, D. N.	(Letter to the Author)	F., 12	Traumatic	3	D.	Acute.	Chloral alone at first. Subsequently morphia, atropia, calabar bean and chloroform.
45	Easley, E. T.	Do do	M., 19	Traumatic	11	R.	Acute.	Chloral, morphia hypodermically.
46	Do	Do do	M., 14	Traumatic	7	R.	S. A.	Chloral, morphia hypodermically.
47	Squier, Jno. B.	Do do	M., 60	Traumatic	10	D.	A	Aconite, chloral and morphia.
48	Laveran	Archiv. de Physiol., Oct., 1877	M., 11½	Traumatic	12	D.		Chloral and morphia.
49	Rizzoli	L' Union, 1873, p. 247	M., 19	Traumatic	9	R.		Chloral, excision of nerve, and morphine injections.
50	Kretschy	Wien. Med. Woch., 1876	M., 15	Traumatic	16	R.		Chloral and amputation of finger.
51	Verneuil	Gaz. des Hôp., 1874, p. 94–97	F., adult	Traumatic	5	D.	Acute.	Chloral and morphia.
52	Gatti	L' Independente, Sept., 1872	M., 40	Traumatic	6	R.		Chloral, bleeding and curare.
53	Otto (Dorpat)	Med. Zeitschrift, 1872, p. 188		Cold and wet	13	R.		Curare, chloral, and then curare again.

54 Do.	Med. Zeitschrift, 1872, 188	M., 24	Traumatic	15	D.	Chloral, morphia, curare.
55 Sanni, Carlo.	Il Raccogliatore Med., Nov. 1873	F., 42	Dog bite	15	R.	Chloral, morphia, curare.
56 Ghio, Ant.	Gaz. Lomb. xxxiv. 30, '74	M., 16	Traumatic	17	R.	Chloral, curare, warm baths.
57 Kennedy, S.	Phila. M. & S. Reporter, Feb., 1873	M., 52	Traumatic	11	D.	Chloral and calabar.
58 Bennett, W. H.	Phila. Med. Times, Dec., 1871	M., 18	Traumatic	7	D.	Chloral, calabar bean, chloroform.
59 McEwan, J.	Glasgow Jour., Oct., 1874	M., 10	Traumatic	21	D.	Chloral, calabar bean, ice, chloroform.
60 Porter	Am. Jour. Med. Science, July, 1876		Traumatic	13	R.	Chloral and potass. bromid.
61 Wood, H. C.	Phila. M. & S. Reporter, Oct., 1877				R.	Chloral and bromide in large doses. Blister to neck.
62 Blachez	Gaz. Hebdom, 1878	M.,	Cold and wet.		R.	Chloral, bromide potass. and baths.
		M.,	Wet	1	R.	Chloral, bromide potass. and baths.
63 Evans, H. G.	Phila. Med. Times, May, 1878		Traumatic	11	R.	Chloral, bromide potass. and baths.
64 Panthel	Berlin, Klin. Woch., '78		Traumatic	5	R.	Chloral, bromide. Later, chloral.
65 Heath	Lancet, March 23, 1878	M., 45	Traumatic	14	R.	Chloral, bromide. Later, chloral.
66 Carruthers, J. B	Edinboro Med. Journal, March, 1877	M., 14	Traumatic	13	R.	Acute. Chloral, bromide. Later, chloral.
67 Tuxford, Arth.	Schmidt's Jahrbücher, 171, p. 239		Wasp stings	3	R.	Chloral, bromide. Later, chloral.
68 Samuels	Lancet, Feb. 16, 1878	M., 17	Traumatic	7	R.	Chloral, bromide.
69 Krause, R.	Inaug. Dissert., Breslau, 1878	F., 21	Traumatic	14	R.	Ch'l., potass. brom., morph. & curare.
70 Ferrini, Giov.	Gaz. de Paris, 1876	M. (negro)	Traumatic	5	R.	Chloral and jaborandi.
71 Do.	Gaz. Lombardi, 1877		Wet & wound	2	R.	Chloral and jaborandi.
72 Bannister, H. M	Quoted by Kerecht	M., 24	Traumatic	13	D.	Chloral and other remedies.
73 Dawson, B.	Am. Jour. Obstet., April, 1876	F.,	After operation	9	D.	Chloral subcutaneously, calabar bean.
74 Foster	Lancet, April, 1871	M., 40	Traumatic	16	R.	Chloral and amyl.
75 Dawson, W. W.	The Clinic, July, 1876		Traumatic	16	R.	Chloral, cal. bean, morphine and opium
76 Calastri	Gaz. Lombardi	M., 17	Traumatic	19	R.	Chloral, chloroform, opium, extension.
77	Pacific M. & S. Journal; Lancet, March 24, 1874	M., 9	Traumatic		R.	Chloral, tr. opii., potass. bromid. and ice to spine.

TABLE II.—*Continued.*

NAME OF REPORTER.	JOURNAL REFERENCES.	AGE AND SEX.	CAUSE.	KIND.	RESULT.	DATE AFTER INJURY.	TREATMENT.
78 Drake.....	Practitioner, 1877, p. 52..	M., 28.....	Traumatic....	13	D.	.....	Chloral and cal. bean; nerve stretching.
79 Gay, G. W....	Boston M. & S. Journal, Aug. 1876	M., 54.....	Traumatic....	10	D.	.....	Chloral and potass. bromide.
80 Bresson.....	Practitioner, 1877, p. 142	Man	From burns...	8	D.	.....	Chloral, morphia, calomel and hot baths. Died from laryngeal spasm from cold air after a hot bath.
81 Verneuil.....	Gaz. des Hôp., No. 43, '70	Man	Traumatic....	8	R.	.....	Chloral and morphia.
82 Do.....	Do do	M., 20.....	Traumatic....	15	D.	.....	Chloral, morphia, potass. bromid.
83 Haynes, W. H.	(Letter to the Author)...	Infant, 9 days.	T. Nascentium.	.....	D.	.....	Chloral and potass. bromid.
84 Parrish, Jos...	Do do ..	M., 9.....	Traumatic....	10	R.	.....	Chloral, potass. bromid., morphia; then after two weeks, morphia alone.
85 Johnson.....	Med. Times & Gazette, June, 1875.....	M., 28.....	Traumatic....	8	D.	Acute.	Chloral and calabar bean.
86 Imray	Med. Times & Gaz., May 27, 1876.....	M. (negro), 47.	Traumatic....	13	R.	.....	Chloral and opium.
87 Boon, A. P....	Lancet, Feb. 16, 1878....	M., 10.....	Traumatic....	36 hrs.	D.	.....	Chloral and cannabis indica.
88 Do.....	Do do	M., 18.....	Traumatic ...	48 hrs.	R.	.....	Chloral and cannabis indica.
89 Do.....	Do do	M., 50.....	Traumatic....	6	R.	.....	Chloral and cannabis indica.
90 Do.....	Do do	M., 10.....	Idiopathic....	.....	R.	.....	Chloral and cannabis indica.
91 Do.....	Do do	M., 14.....	Idiopathic....	.....	R.	.....	Chloral and cannabis indica.
92 Davis, F. H...	Do March 23, 1878..	F., 10	Idiopathic....	10	D.	.....	Chloral, chloroform, morphia. Chloral seemed to give most relief.
93 Barruch, S....	(Letter to the Author)...	M. (negro) ad'lt.	.....	.....	R.	.....	Chloral and potass. bromid.
94 Mr. Cock. ...	Taylor, Guy's Hosp. Reports, 1878, p. 339....	M., 23.....	Traumatic....	7	D.	Acute.	Chloral and morphia.
95 Dr. Fagge....	Taylor, Guy's Hosp. Reports, 1878, p. 339....	M., 20.....	Traumatic....	5	R.	Chr.	Chloral and potass. iodid.
96 Drs. Davies & Colley.....	Taylor, Guy's Hosp. Reports, 1878, p. 339....	M., 13.....	Traumatic....	5	D.	Acute.	Chloral, opium and potass. bromide.

Total cases, 96 { Recovered.....63
Died.....33 { Males.....23
Females.... 7
Infants..... 1

Died..... { Traumatic.....28
Idiopatic..... 3
Tris. Nasc..... 1
Puerperal..... 1
Total.....33

MIXED TREATMENT.

REMEDIES USED.	RECOVERIES.	DEATHS.	TOTAL.
Chloral and potass. bromid....	16	5	21
Chloral, potass. bromide and calabar bean..	1	1	2
Chloral, potass. bromid. and morphine.....	4*	4	8
Chloral, potass. bromid., morph. and woorara	1	0	1
Chloral, potass. bromid, morph. and atropia.	1*	0	1
Chloral, potass. bromid. and chloroform....	2	0	2
Chloral and physostigma.....	4	5	9
Chloral, physostigma and morphine.....	1	0	1
Chloral, physostigma and chloroform.....	1	2	3
Chloral, curare and morphine.....	1	1	2
Chloral and curare	2	0	2
Chloral, curare and bleeding.....	1	0	1
Chloral, chloroform and morphine.....	1	3	4
Chloral and chloroform.....	0	2*	2
Chloral and atropia.....	3	1	4
Chloral, atropia and morphine.....	0	1	1
Chloral and morphine.....	9*	5	14
Chloral, aconite and morphine.....	1	0	1
Chloral and amyl.....	1	0	1
Chloral and jaborandi.....	3	0	3
Chloral and nicotine.....	1	0	1
Chloral and cannabis indica.....	5	1	6

* In one case there was surgical interference. In some of these cases marked "morphine" opium was used; and in some marked "atropia," belladonna was employed.

4. The long uninterrupted sleep at night. In this particular there is a resemblance to chorea. In true tetanus there is no such relief until convalescence. It is noticeable also that no such relief followed the administration of chloral until it was given in thirty-grain doses.

Dr. D. W. Yandell (American Practitioner)* comes to the following conclusions from a study of 400 cases:

1. Tetanus occurs in males in proportion of four to one, and tends to recovery oftenest in females.

2. Most fatal in persons under 10 years of age—least fatal between 10 and 20 years.

3. Traumatic tetanus usual from four to nine days after injury, and these cases represent the largest mortality.

4. Recovery usual when disease appears after the ninth day.

5. When symptoms last fourteen days, recovery the rule, death the exception, *apparently independent of treatment.*

6. Tetanus appearing in puerperal state is most fatal.

7. Chloroform up to this time has yielded the largest percentage of cures.

With reference to the second clause of Dr. Yandell's first proposition, I think there must be a mistake, for from the statistics which I have collected, more females die in proportion to the number attacked than males:

AGE.	FIRST TABLE.		SECOND TABLE.		TOTAL.	
	DEATH.	RECOVERY.	DEATH.	RECOVERY.	DEATH.	RECOVERY.
First 10 years of life.....	5	6	7	19	12	25
10 to 20 years.....	5	19	10	17	15	36
20 to 30 years.....	9	8	11	16	20	24
30 to 40 years.....	7	8	18	16	25	24
40 to 60 years.....	4	5	5	13	9	18
60 to 70 years.....	.....	.....	2	.....	2	.....
Totals	30	46	53	81	83	127

* Detroit Review of Med., May, 1875.

DATE OF TETANUS AFTER INJURY.	FIRST TABLE.		SECOND TABLE.		TOTAL.	
	DEATH.	RECOVERY.	DEATH.	RECOVERY.	DEATH.	RECOVERY.
First 9 days	16	18	28	33	44	51
From the 9th to 21st day	13	28	19	29	32	57
From the 20th day on	1	3	3	13	4	16
Totals	30	49	50	75	80	124

SEX IN CASES OF DEATH.	FIRST TABLE.		SECOND TABLE.		TOTAL.	
	CASES.	DEATHS.	CASES.	DEATHS.	CASES.	DEATHS.
Males	62	23	107	45	169	68
Females	16	7	22	12	48	19
Totals	78	30	129	57	207	87

The period at which tetanus seems to have been the most fatal was in patients from 20 to 30 and from 30 to 40 years of age. This differs somewhat from Dr. Yandell's conclusions, but the study of a larger number of cases may entirely change the figures.

As I said before, I believe that we have in chloral hydrate one of the most useful agents known for the treatment of this terrible disease, but I also maintain that in using it alone we are neglecting to do our full duty. A combination of chloral hydrate, potass. bromid., morphia and calabar bean would seem to be that best suited to the majority of cases. Removal of foreign bodies, maintaining the bowels in a relaxed condition, exclusion of light and maintenance of perfect quiet, with plenty of stimulus and liquid food, are not to be neglected. Quinine should be given in large doses if the temperature is high, and chloroform may be given by inhalation to modify the severity of the spasms.

Should the glottic spasm despite these measures, be so severe as to threaten life (and it often does), tracheotomy should be resorted to at once.

Whatever the drug employed in this disease, it must be given in large amounts, frequently repeated. Many of the cases in

both tables, but especially the first, were undoubtedly lost owing to the fact that the drug was not given in sufficiently large doses. Ordinary "large doses" are out of the question. Those only succeed that would in other diseases be considered *enormous*. As much as 1,140 grains have been given in twenty-four hours to a child æt. 12 years with only good results.

Prof. H. C. Wood,* of Philadelphia, speaks highly of the use of bromide of potassium in this disease. He cites eighteen cases, in two of which deaths occurred. He says: "I have been unable to find a recorded death from the disease after the free exhibition of the bromide, although according to Dr. Roemer one or two have occurred." It is for this reason that I believe that this drug should be combined with the chloral. To have any effect both of the drugs must be given in *very large doses*, the tetanic spasm seeming to antagonize the effects of the drugs. Some of the cases of death recorded in these tables might, undoubtedly, have been written recoveries had the drug been used with sufficient freedom.

Chloral has been used in another way by Dr. Macnamara.† Believing that it exercises no control over the spasms, he gives it at night in 40-grain doses and an additional dose in the morning if the temperature is above 101° F. No other medicine is given. Patient is made to take four ounces of brandy with milk every four hours. He claims to have saved seventeen in twenty consecutive cases (traumatic?) occurring in natives of India.

When it is impossible to give it by the mouth, it may be given by the rectum in milk. It has been given subcutaneously with a resulting cure by Dr. J. Hyde Salter‡ and others§. The rectum, however, affords every advantage when it is impossible to give it by the mouth. Intravenous injections of chloral which have been tried in France‖ are not justifiable, unless an immediate and decided effect is necessary to save life.

---

* Materia Medica and Therapeutics, Phila., 1877, p. 313.

† (Practitioner, Nov., 1874). Quoted by H. C. Wood, op. cit., p. 323.

‡ Practitioner, Dec., 1876.

§ Ribell. Ann. de Gynécologie, June, 1875.

‖ Oré., Gaz. de Paris, 21, 1874. Cruveilher, Gaz. des Hôp., 49, 1874. Labbé, Gaz. de Paris, 21, 1874. Tillaux, L'Union, 101, 1874. Lannelongue, Gaz. des Hôpitaux, 125, 1874.

Dr. J. K. Bigelow* in one case of tetanus found great relief to spasm by opening the wound and putting in chloral.

Dr. Allison Maxwell,† of Indianapolis, Ind., tried this in one case, but the smart of the application was so great that the patient could not bear it, and afterwards would not allow even a weak solution of chloral to be used locally.

Mr. R. W. Findlay,‡ V. S., in two cases of traumatic tetanus in the horse, secured a favorable result by giving ℥iv potass. bromid. and ℥ii chloral hydrate in ℥viii water three times a day.

191 WEST TENTH ST., New York City.

ARTICLE V.

REPORT OF THREE PECULIAR CASES OF PARALYSIS, WITH RECOVERY IN EACH CASE.

By H. D. Valin, M.D., Chicago.

(Read before a meeting of the West Chicago Medical Society, January 24, 1881.)

CASE I. *Paralysis of Lower Extremities, with Tremors and Convulsions Following a Concussion of the Spinal Cord.*

W. H., male, single, aged twenty-four, born in this country, heavily built, strong and plethoric. Family healthy; no constitutional disease. While walking very fast, on a wooden sidewalk in the city, November 14, 4 p.m., came across the space left by a missing plank which his left leg entered, and, with an effort to prevent a fall forward, he fell flat on his back on the sidewalk, producing concussion of the spinal cord.

There was complete paralysis of the lower extremities, with anæsthesia, cold clammy skin, retention of urine, slow pulse, and respiration increased in frequency and labored. The left arm was slightly affected, and there was dizziness and headache. No external injury. Pain excessive in the lumbar region and reflected over the abdomen.

A physician, called on the spot, diagnosed concussion of the

---

* American Practitioner, Dec., 1877.

† American Practitioner, Jan., 1880.

‡ N. Y. Med. Record, 1876, p. 613.

spinal cord, and proposed an hypodermic injection of morphia, but the patient and his friends refused, and the patient was taken home in a street car. I saw the case at 7:30 p. m., and prescribed a liniment:

℞ Chloroform.....ℨss.
Morphiæ sulphat.....gr. ij.
Tr. opii.....
Tr. belladonnæ.....*a a* ʒij.
Liniment. saponis .....ad ℨiij.
M.

To be applied all over the back every half hour. Patient took, also, three-eighths grain of morphia (powder) every hour to induce sleep. (Three powders were taken.) Directions were left to warm the feet and legs. Patient slept about half an hour that night. Pain mostly relieved. Micturition took place, though with difficulty, the next morning.

A good deal of pain was complained of in the head, in the pit of the stomach, over the solar plexus of nerves, and also in the lungs. Bowels had not moved for two days. He took 10 gr. each of calomel and ipecac which moved the bowels thoroughly the next day and produced emesis, once.

November 18, he began to take 30 grs. iodide of potassium and 50 grs. of the bromide in twenty-four hours, and took that during nine days. He began to improve a little from the beginning. Headache diminished, and so the pain in the back, while some motion returned in the right leg. He had bromism on fourth day, on which account he had to diminish the dose of his remedy. He used to take three-eighths grain morphia at night, sometimes twice as much. Sensibility returned partly in the legs, more in the right, also a slight amount of motion. Less pain was complained of, though there was a good deal of tenderness along the spine, and over the abdomen. Appetite increased. There was all that time some tympanitis of the bowels, for which he used synapisms, oil of turpentine stupes, and castor oil internally.

From the 22d to the 29th of November I was absent, and found the patient about the same on my return. He had not taken any remedy for three days; had been feverish, and had had chills two or three times. He used to have involuntary

tremors of the legs in the night. I prescribed a few doses of 8 grs. quiniæ and 5 grs. comp. ipecac. powders, and bromide of potassium, 40 grs. a day, with 1½ drachms of fluid extr. of ergot. The morphia powders were replaced by the deodorized tr. of opium in equivalent doses, and this was taken now and then when required.

It was eighteen days after his fall when the patient was able to get up once a day with crutches. Sensibility was so blunt in the left leg that the prick of a pin would hardly be noticed.

December 16. Patient had not taken any remedy for a few days, and had moved with his family to the next block on the day previous, catching a bad cold. About 3 p. m., he fell into a sort of tonic spasm, with tremors of the lower extremities, fearful headache, contraction of the pupils, and stiffness of the neck and whole vertebral column. I saw him about 4:30 p. m., when he began to have clonic convulsions, and a wild delirium, tearing his bedclothes, making violent motions, and holding a pillow between his arms with efforts at tearing it with his teeth. The pulse was increased to over a hundred pulsations during the attacks, each of which lasted about twenty minutes, during which most of the muscles would strongly contract, and the limbs be partially flexed. The scalp and integument of the back were hot and tender, every passive movement being painful; but the control of the will had a certain influence over the convulsions at the beginning.

I applied ice to the head, gave about 40 drops of the deodor. tr. of opium, half a drachm bromide of potassium, and administered chloroform on a handkerchief at every return of the convulsions, that is six different times. As the patient had not passed water since morning, and as the bladder was painful under pressure, a warm compress was applied over it, and micturition took place fifteen minutes later with some difficulty. There was no albumen in the urine. It was half past six o'clock, and the patient being conscious, the chloroform was stopped—one ounce had been used—and there were no more convulsions that day. Patient took quinine for his cold, bromide of potassium, and 20 drops of the deod. tr. of opium, every three hours.

Patient improved till December 22, when he had convulsions

more violent than the first time, and he remained in that state from 4 to 7 p. m. Again he inhaled chloroform ℥jss, and he took half a drachm each of chloral hydrate and bromide of potassium. The convulsions ceased after he was under the full influence of the chloral and fast asleep. In his delirium he sang mourning hymns, and his hearing was good, at least in regard to musical notes, for a hand-organ happening to play in the street, he made the motion of turning the handle with his right hand, and tuned his groans to the music. Between each convulsion he was rational. He again complained of a desire to micturate. During these convulsions, they referred to his having been bitten on the hand by a dog three years ago, and he alluded to it himself, but he had no difficulty in drinking water, and no sign of hydrophobia. These convulsions must have been the result of cold on the hyperæmic spinal cord and membranes, manifesting thus all the signs of cerebro-spinal meningitis. Patient's bed lay in a corner of the room, with a door at his feet, and one near his head, communicating with unheated rooms which were often opened into, sometimes both at the same time.

December 24. He began to take the sulphate of strychnia one-tenth gr. three times a day. This afforded him much relief, and he is able to be out now every day with his crutches. The spinal column is tender in the lumbar region, and the left leg is too weak to bear the body's weight; it is yet hardly sensitive to external irritation. Patient is nervous and irritable.

This case belongs to the third category of cases as given by Erb in Ziemssen's Cyclopædia, and an impairment of the lower extremities is likely to remain for life. My treatment was that of Erb just referred to, except that he says: "*Strychnia should not be resorted to until all the symptoms of irritation are past.*" But in this peculiar case, I am glad that I did not delay its use so long. I propose now to employ electricity. I may add that, a few days ago, patient took by mistake 50 grs. of bromide of potassium in the evening. The result was that he hardly slept any that night, was restless, vomited twice, had roaring in the ears, and a loss of appetite. These symptoms disappeared the next day.

CASE II. *Hemiplegia at fourth month of pregnancy.*

December 18, 1880. Mrs. L., at fourth month of pregnancy, fell unconscious and paralyzed, on getting ready to sweep the floor in the morning. Her mother died from paralysis. She is thirty-two years old, tall and spare, of the nervous temperament, and was married last year, this being the first time that she has become pregnant. Her husband left for Texas two weeks previous, and she had much grief on that account. Following the fit, patient's left side was completely paralyzed: the left side of the tongue, the left arm and the left leg not being at all influenced by any voluntary effort. Patient was at first unable to speak, had difficulty in swallowing, and did not sleep for seventy-two hours, or until morphine was resorted to. The sensibility was normal in the paralyzed limbs, and no pain was complained of anywhere.

I saw her on the third day after the accident. She could speak with difficulty, could swallow fluids, a little at a time, and could move the leg slightly. The tongue was protruded with difficulty, and to the left side; it was coated yellowish. Pulse was 92 a minute, temperature normal; the bowels had not moved for two days, and the uterus was normal as to its shape and position, at the present period of pregnancy. I ordered a tablespoonful of castor oil, repeated after three hours, which had no effect, and I gave 10 grs. bromide of potassium in a drachm of co. tr. of cinchona every four hours, during three days, to calm the nervous excitement and tone the system; I also gave one-fourth gr. morphia powders to procure sleep. December 21, I replaced the bromide by one-sixteenth gr. of strychnia three times a day. A fly blister two inches square was applied to the right side of the neck on some painful points, and to make counter-irritation. Patient had to take morphia to induce sleep for five nights, and she took, December 22, nine co. rhubarb pills, in divided doses to move her bowels. From that day rapid improvement set in. Motion returned in the leg, in the arm also, slightly at first, and the hand began to grasp a little. The tongue cleared in a couple days, and the appetite returned. Patient's husband came back about that time, and she was able to be up, when supported on both sides.

December 28, 4 grs. of citrate of iron were added to the strychnia three times a day. A fly blister three inches square was applied over the roots of the left brachial nerves. This seemed also to have had a good result. Motion became more and more perfect in the arm. January 16. Patient is perfectly well, and resumes her daily occupations. Disease did not interfere with the pregnancy.

CASE III. *Bulbar paralysis recurring after one year. No treatment.*

H, male, single, aged seventy-two years; was living in a mountainous district, alone in a stone house, where he was much exposed to cold. It was in the winter of 1878, about the 15th of December; on rising in the morning he noticed that he could not speak at all, though his memory of words was not impaired, and that he could hardly swallow. He belongs to a healthy family, never had any constitutional taint, but has atony of the bladder, with incontinence of urine at times. He always had some difficulty of speech, depending on a slight degree of tongue-tied.

On the third day he could say a few words, and swallow better. The left side of the tongue was paralyzed and that organ was protruded to the left side, motions of the head were slightly impaired, and patient was very emaciated. Pulse 82 a minute, no fever, some winter cough. He had suffered from want, cold and privations, anxieties and depression. He had some wealth, and had just lost several hundred dollars in transactions. A physician prescribed 5 grs. bromide of potassium three times a day, which did not seem to have any effect, and he was convalescent all winter and got better in March. He attended to a part of his affairs during that while.

November 1879, patient had another attack for which he took 10 grs. bromide of potassium three times a day for a week, and afterward, the citrate of iron and strychnia in appropriate doses. He improved in a few weeks, but did not feel perfectly well before spring. He has had no return of the disease yet this winter.

802 S. Halsted St.

ARTICLE VI.

A CASE OF ACUTE ABSCESS OF THE LIVER, OPENED THROUGH THE ABDOMINAL WALLS; WITH RECOVERY. By Samuel J. Holmes, M.D.

I regret that I am obliged to give the history of the case, substantially as I recall it from memory, not having kept a diurnal history, but if I was able to present it more in detail, perhaps it would furnish no *special* features, as differing from the usual case of acute abscess of the liver.

It is interesting as an extremely rare affection, in the temperate climate, and one belonging, *par excellence*, to the warm, and is still further interesting, as illustrating the recovery of a patient, even under the adverse circumstances of age, and the breaking down of a large tract of glandular structure, in an organ so important as the liver, and seems to indicate the advisability of early operative procedure (to evacuate the abscess cavity), as soon as the liver can be clearly defined, as having become adherent to the abdominal walls. The cessation of the patient's discomfort, and the gradual but constant recovery from the weakened condition into which she had necessarily sunk, prove the operation to be a measure of economy, in the preservation of strength, for to have put off the opening of the abscess until nature should have created an opening, would have been a positive prolonging of the patient's suffering, insured in a measure her exhaustion (as her physical forces were fast succumbing) and would eventually have proven fatal.

History: Mrs. B., of 53 N. May street, aged fifty-nine years, of full habit, called me in the latter part of August. The patient suffered an attack of malarial fever, about thirty years ago, since which time she has enjoyed comparatively good health. Eight years ago she became cognizant of an enlargement within the abdomen, which she supposed to be a tumor, but felt no further inconvenience or discomfort from the same, other than a sensation of pulsation. She could not say that she had been aware of its increase in size since that time. Two weeks previous to see-

ing me, she had visited friends in Wisconsin, where malaria was prevailing, and feeling unsafe here, returned to her home in Chicago. Three days previous to summoning a physician, she crossed the lake to South Haven, returning the following day, and suffered extreme sea-sickness both in crossing and returning. After returning, she ate injudiciously of fruit, and upon the following day I saw her with these symptoms presented: Vomiting; pain, quite severe in character, referred to the epigastric region; tenderness over the same region; constipation of the bowels; coated tongue, fever, and an acceleration of the pulse. My attention was directed to the enlargement within the abdomen, which by palpation and percussion I was enabled to define as follows: Easily traceable to three inches below the umbilicus—and beneath the ribs above the umbilicus—to the left of the median line above and below the umbilicus (with a zone of percussion resonance between the enlargement and spleen) and to the right of the median line above the umbilicus, the surface was smooth, and its inferior extremity blunt and rounded. It will be seen that the enlargement extended below the umbilicus, while the tenderness, as before indicated, was limited to that part above the umbilicus corresponding to the epigastric region. I concluded that the enlargement was that of the left lobe of the liver, and by differentiation, it was fair to suppose, one of hypertrophy, from malarial causes of years previous. Fatty liver, amyloid liver, and carcinoma, were readily excluded, and as no fluctuation was discernable, the idea of a cyst, of hydated nature, or chronic abscess, was not to be entertained.

Enlargement of the liver frequently, but not invariably, exists in abscess of the liver, and the enlargement may be found to be limited to a particular direction, and not affecting the whole organ. But the acute symptoms were referred to the stomach, considering the immediate exciting causes which would be calculated to disturb that organ with such symptoms as were manifest in the case, and so the liver was excused from hepatitis, of a suppurative nature, and the nearest approach, or conjecture (for it could be but conjectural at this time) was the thought, that perhaps there might exist a perihepatitis, or circumscribed peritoneal inflamma-

tion of that portion of the liver from which the pain and tenderness arose.

The patient was given a saline cathartic (which did not operate), bismuth and pepsin to control vomiting, quinine to allay the fever, an opiate to control pain, and a sinapism was applied over the epigastric region, followed by hot flaxseed meal poultices continuously applied. These remedies were administered in behalf of the stomach, but if hepatitis had been clearly made out, would not have been inappropriate as treatment. The symptoms continued for about one week, with varying intensity, and no change in the administration of medicine, except to change the cathartic, and finding that the greatest obstinacy of the bowels obtained, to effect a movement later by enemas. The amount of morphine required to control the pain was large, which first created the suspicion that the pain was too intense for a catarrhal condition of the stomach. By request of the family, Prof. Byford was called in consultation, and, after a careful examination, rendered the diagnosis of hypertrophy of the liver, and referred the acute symptoms to the stomach, a diagnosis in accord with the first made. His only suggestion was to supplant the morphine by hydrate of chloral, and the administration of a small amount of calomel, which was carried out. Another week passed, and the symptoms changed materially. The fever which had been continuous, became intermitting, with frequent rigors through the day, and sweating (all of which symptoms were irrespective of the time of day) and the patient growing weaker. It seemed apparent now, that pus was confined in some part of the body, and, to a probability, the lower. Very soon, a slight pouting, or prominence manifested itself about three inches above the umbilicus, corresponding to a point near the median line, which soon took on redness, and over which a sense of fluctuation was discernable. This became larger and larger, and gave every evidence of an abscess of the liver. Prof. Byford again saw the case with me, and did not question the presence of an hepatic abscess. The patient was weak and debilitated, and a few days previous, I placed her upon calisaya bark and wine, continuing the quinine, and dispensing with all other medicine except the chloral. Satisfied that the anterior surface of the liver was

adherent to the peritoneal surface of the abdominal walls (and the patient growing constantly weaker), I advised her to allow of its being opened, but she preferred to await the powers of nature to consummate the same, and so deferred. A few days passed, and becoming apparently exhausted, and disappointed in the expedition with which nature ulcerated its way through the walls of the abdomen (the anterior wall of the abscess), she reluctantly submitted to an operative procedure, which was to extenuate her suffering, and place her in a condition to recover. I opened the abscess freely, selecting a point as near the center of the prominence, over which fluctuation was to be felt, as possible (for there was no point which manifested any degree of thinning of the wall over that of other parts of the same), and drained from the cavity from six to to eight ounces of pus, introduced a drainage tube, and covered the whole with oakum. The abscess was dressed twice a day, and the wine and bark given freely. The effect of opening the abscess was a most salutary one. Rigors, fever and sweating, ceased immediately. Sleep, natural and refreshing, came to assist in the return of strength, appetite fast improved, and the change in the patient's general condition was such as to win from her the greatest commendation in surgical interference, for she termed it "her new lease of life." The abscess cavity, after the first week, slowly but progressively filled in from the bottom; the drainage tube was frequently shortened: and in five weeks from the time of opening the abscess, the cavity was closed; the patient walking about (in spite of the excessive drain), but with some remaining asthenia.

Microscopic examination of the pus, revealed in addition to ordinary constituents of pus, cholesterine crystals, and disintegrated hepatic tissue.

The diagnosis of the affection is obscured early in its history, by the infrequency of the disease, in our climate, and the equivocal symptoms which accompany it. Indeed, it cannot be made with any degree of certainty, previous to the discharge of pus into one of the cavities of the body (with its subsequent elimination externally to the sight), or its manifestation upon the abdominal walls, where manual exploration reveals the true nature of the disease. It is true, that the clinical symptoms of the disease, in

the warm climate, would doubtless arouse the suspicion of the disease being present, but as I have before said, with us it would be equally rare, to venture even the supposition, before the time when it asserts itself, and makes unnecessary any hypothesis, and again the symptoms which precede the fluctuating enlargement, are not always well marked.

Nature is indeed conservative in advancing the abscess to this issue, and as we think of the situations in which it *might* have ruptured, with a positive fatal termination, it lends an opportunity to applaud her efforts. The bronchial tubes and alimentary canal are next in order as to favorable localities for evacuating the pus, and it might be evacuated into the right pleural cavity, and subsequently into the lung of the same side, with favorable termination; but the peritoneal cavity, the pericardial cavity, or hepatic vein, and inferior vena cava, are receptacles which furnish, as a rule, fatal results. We can scarcely expect a favorable issue, even when the abscess is evacuated in the *most favorable* direction, and multiple abscesses render the prognosis most grave, as is apparent.

The case made a quick recovery, if statistics as to the average duration are reliable. Of course the direction taken by the pus, determines the time required for recovery. The average duration would seem to be from four to five months, and the longest time is required where the discharge is through the integument. From observation of cases, it would seem that the largest number of cases occur in the right lobe (the left in this), and most frequently in the posterior portion (anterior in the case considered).

To arrive at the special factors of etiology, is a matter of great difficulty. I do not think that it was possible for the patient to have sustained a contusion, sufficient to have caused the abscess, in crossing the lake, although she describes the "shaking and pounding" as of considerable moment. I do not remember to have read or heard of a case in which a chronic congestion of the liver, became kindled into an activity sufficient to have eventuated in abscess, but the liver in this case, was hypertrophied, and doubtless in a state of chronic congestion, and I am not disinclined to look upon this feature as enacting some part, or sustaining some causative rela-

tion, in the etiology of this case. I do not think that a visit to a malarial country had to do with reinforcing a previous existing condition, for the patient suffered no malarial fever subsequently.

Sufficient uniformity in cases as to their apparent etiology is a desideratum, and the case ranks admirably with precedent in this regard.

313 Fulton St., Chicago.

ERRATA.—The article entitled "A case of Iritis Serosa," published in the February number of the Journal went to press, the proof not being corrected. The following are misprints:

Page 133, line 2, for should read to; page 133, line 6, congestion should read injection; page 133, line 7, synechia should read synechiæ; page 133, line 7, makes should read make; page 134, line 3, appearances should read appearance; page 134, line 7, and should read or; page 134, line 20, synechia should read synechiæ; page 134, line 22, punctured should read punctated; page 134, line 25, for should read to; page 135, line 28, noticed should read noted; page 136, line 7, T + 91 should read T + 1.

THE Illinois State Board of Health is now engaged in preparing the second edition of the "Register of Physicians and Midwives," and will be obliged to the profession if they will call attention to mistakes and changes of location or omissions. Secretaries of medical societies are also requested to send the roster of their officers, and the names, age and cause of death of any medical men who have died within the last year.

The Board is anxious to make the Register as perfect as possible. It is also important to every one that his or her record is correct.

Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

ARTICLE VII.

Metastasis of Mumps.

This is a rare complication of that disease, and I am for that reason induced to send the report of a case occurring in my practice.

Mrs. B., age twenty-three, had had mumps for one week. The swelling was extreme. The brunt of the attack was borne by the sub-maxillary glands. The parotid and sub-lingual glands were moderately enlarged. She was then seized with a chill, followed by vomiting and an intense headache. This was at 4 p. m. When seen by me at 10 p. m. the cephalalgia was so severe that she could not lie still in her bed; pulse 112, sharp and quick, temperature 101, tongue coated with fur. The swelling in the salivary glands had greatly diminished since the onset of inflammation of brain, and next morning had entirely disappeared. Patient then presented the following symptoms: Intolerance of light and sound, delirium, pain over the whole of vertex, reversed action of pupils, restlessness and insomnia; pulse, 114 sharp and quick; temperature, 101.4; tongue, coated; bowels, obstinately constipated. This state of things continued during the day up to 10 o'clock. When I saw the patient next morning she was then out of danger. The pain had gone and she was perfectly rational, in fact, well; the disease leaving her suddenly in the night. That afternoon she again had a rise of temperature and rapid pulse, 100, and I looked for a return of meningeal trouble, but it proved to be a return of the parotitis. The glands on one side were moderately enlarged for two days, and then permanently

subsided. The treatment adopted from the first was chloral hydrate, gr. 20, brom. potassium, gr. 40, every three hours, with ice to the head constantly, and several doses of Rochelle salts, none of which acted, however. I should have given her a dose of croton oil last morning had she not been almost entirely free from any symptoms of meningitis. The reversed action of pupils, as I term it, consists of the pupil contracting when shaded from the light with the hand, and dilating immediately on exposure to light by withdrawing the hand. This is a symptom which I noticed once before in a case of meningitis (*basilar traumatica.*) I have never seen the symptoms noticed in the books, and have not met anyone who has ever noticed it.

C. W. ROBBINS, M. D.

A SANITARY CONVENTION will be held at Battle Creek, Michigan, March 29 and 30, 1881, under the auspices of the State Board of Health. In accordance with invitation received from citizens of that place, arrangements having been made by a local committee, acting with a committee of the State Board of Health.

There will be sessions the first day at 3 p. m. and 7:30 p. m.; on the second day at 9:30 a. m., 2:30 p. m., and 7:30 p. m.

During each session of the convention there will be one or more addresses on papers on some subject of general interest pertaining to public health, each paper to be followed by a discussion of the subject treated.

The officers chosen by the committee are as follows: Rev. D. F. Barnes, President; Hon. George Willard, Prof. Z. C. Spencer, Mr. L. McCoy, Rev. Dr. Sidney Corbett, Edward Cox, M.D., Judge B. F. Graves, Vice Presidents; J. H. Kellogg, M.D., Secretary.

Manufacturers of and dealers in all kinds of sanitary apparatus or appliances are invited to send specimens of their articles for exhibition at these conventions.

Domestic Correspondence.

ARTICLE VIII.

NEW YORK LETTER.

EDITORS JOURNAL AND EXAMINER:

Everyone who has the cause of medical education at heart will be disappointed and discouraged at the news that Bellevue Hospital Medical College has given up its three-year course. This it has done without giving the new system even a year's trial. The Faculty met in solemn convocation with the students a week or two ago. The Dean then arose and announced in almost plaintive tones that the College had had only fifty new students since last fall, when the new regulations went into force. The smallness of this number alarmed the Faculty. If it were not increased, the College would have to stop. To avoid even the possibility of such direful calamity, the old plan of a two-year course would be resumed. This back-down, after so very short a trial will certainly, and justly, be condemned by everyone. "If it were so soon to be done for, I wonder why it was begun for." There is no excuse for a return to the old system without having made a longer trial of the new. This action leaves the future of medical education in New York in a very unpromising condition. The two leading motives in such education now are these: The Colleges want to make all the money possible; the students want to get their degrees in as short a time and for as little money as possible. It should be said in justice to the College of Physicians and Surgeons, however, that their examinations are really quite rigid, and that a student can not get a degree without having stood a tolerably strict test of his proficiency.

One of the notable events of the present month was the annual meeting of the Academy of Medicine, when Dr. Fordyce Barker delivered his inaugural address. Other ceremonies filled up the programme, the most attractive one being a supper, at which the loving-cup was passed around, and a good many other cups followed in its wake. The attendance was large and the conviviality great. Dr. Barker's address was not a powerful effort, and hardly worthy of his powers. He spoke at his best when he condemned the narrow antagonism which regular physicians had so long shown towards homœopathy, and he thought that if this unreasonable exclusiveness and opposition on our part were withdrawn, homœopathy would soon sink to its proper level. He referred to the enviable social and financial position of (successful) New York physicians, and gave some instances of the liberality and appreciation of their patients. One physician in this city had received a New Year's present of $10,000. Several others had received somewhat smaller sums. Dr. Barker did not refer to the pecuniary status of those not in a fashionable practice. After his address, a number of prominent gentlemen were called on for supplementary remarks. It was disheartening to see the utter incompetence of distinguished Professors to make an impromptu speech. Still they all knew enough to say that they felt "gratified at the honor," but would prefer to remain quiet. As this was during the *mauvais del quart d'heure* before supper, their silence was after all felt to be the truest eloquence.

There seems to be a return in this city to the times of the Bacchantes and of those ingenuous days when processions in honor of the god Priapus marched through the public streets displaying the symbols of their worship. Any one walking along Broadway just now will encounter here and there a miserable wretch bearing aloft a flaming placard inscribed with this legend: "Use Damiana Bitters, Extract of Damiana, the Great Aphrodisiac Remedy and Stimulant to the Sexual Organs of Both Sexes." This advertisement is blazoned before the eyes of men down-town and of ladies up-town. It is little better than the advertisement of a brothel, and will doubtless increase business in that quarter. Not that damiana is an aphrodisiac, however. It neither excites nor increases erotic feelings except in rare cases. I have known

as much as three ounces to be given daily without its affecting the sexual organs. It is, however, a tonic to the spinal cord, if we may use the term, and it is very useful in atony of the bladder.

While on the subject of foreign poisons I am inclined to furnish you with the results of an experiment with cannabis indica, made while house-physician at Bellevue Hospital.

TOXIC EFFECTS OF CANNABIS INDICA.

The preparations of cannabis indica are so variable in strength, particularly in hospitals, that it used to be considered rather a duty to make occasional trials of their quality. Three patients, to whom drachm doses of the tincture were given, were made quite delirious by it, the delirium ending in some relief of pain and in a heavy sleep. Two of these patients were nervous women and the third was a man with locomotor ataxia. Therefore the results were not sufficiently definite and satisfactory. Determined to get more exact results, one evening at 7:30 p. m., I took a drachm dose of the tincture. At 9 p. m., feeling no especial effect, I took a drachm and a half more, making two and a half drachms in all. At about 10 p. m., while writing, I felt a mistiness over my eyes; I could not carry on any train of thought, and was obliged to stop my work. I was restless, and at length went up stairs to a friend's room, where several persons were sitting about. I began to feel some exhilaration. It was very easy to begin laughing and then very hard indeed to stop. There was an indescribable sensation of strangeness. I should have liked to have been introduced to myself and assured by the *alter ego* that I was all right, for I did not feel so. Soon I felt a numbness and compression on my head as though a long, slender-fingered hand were on it. This sensation passed to my body and extremities. It was a sort of tingling pressure, and not very pleasant. I could see and hear well. My throat became dry, and during the act of swallowing it seemed like an enormous cavern. I began to feel the drug more and more strongly. I was losing confidence in my power to control myself and keep my mind straight. I stopped talking, not knowing what conversational or emotional absurdity I might drop into. I felt as though I were isolated, set off from the others in the room, and that they were watching me

intently and curiously, expecting some very interesting, or rather ridiculous, physiological effect to develop. This was, to some extent, actually the case. Finally I left the room, intending to go to bed. I did not feel a natural sleepiness, but rather a heaviness and inability to control my thoughts and take care of my body. My sensations were so strong that I concluded to walk out a little way and see if it would not clear things up a little. I walked without difficulty; was not dizzy, though my gait was at times uncertain. On coming back I felt a tingling and dragging weight in the calves of my legs. My mind was now in a very muddy and yet flighty state. My attention was constantly wandering off; I had no vivid fancies, but was wondering and speculating on this and that; I could only come back to my actual surroundings by an effort; my heart beat rapidly; my throat grew drier; my skin was wet with perspiration; I had no anæsthesia of the skin. A person came in to see me. I was rational, but seemed to be absent-minded and to think slowly. The feeling of heaviness and oppression grew on me. I was obliged to lie down, and at about 11:30 p. m. went to bed. Then came the visions; I felt as though borne up and up into space by some invisible, irresistible power. I went whirling round and round, up and up, in unending rotation, yet very gently and softly. At the same time crowds of faces and forms appeared before me; beautiful colors, shifting figures, innumerable shapes, gorgeous landscapes and tropical foliage came and went in endless panorama. By a great effort of will I could turn in bed and open my eyes; the visitors disappeared; then my eyes closed and they came again in continued succession and infinite variety. All the while I had the same feeling of being rolled on and on through an endless empyrean. These feelings were not pleasant, in fact there was an indefinable sense of oppression with them. I felt as though the drug had me in its power, and I wasn't at all sure that I had not taken too much of it. I had no sense of the prolongation of time, and none of the "double consciousness," which the drug is asserted to give. Fifteen or twenty minutes after going to bed I was roused to attend to a patient. I was able to get up, appreciate the fact that he had a urethral chill and give him M. x of Majendie and order some other needed measures, though it required a strong effort

and close watching of myself. After returning to bed my visions and atmospheric flights ceased. Later, vomiting came on, and after that I fell into a heavy, dreamless sleep, from which I did not awake for eight hours. The next morning I felt a great deal of heaviness and *malaise*. My appetite was very good, however. I should say that as far as my experience goes, the delights of the hashish eater are illusive. The sensations are oppressive, the visions unsatisfactory, and if one must intoxicate himself he had better do it in the conventional way, with a reliable distillation of cereal products. As far as the practical usefulness of the drug is concerned as a hypnotic or anodyne, no one of the house staff was able to report any definite results, and my own subsequent experience was that it is an extremely unsatisfactory agent. It is quite slow in its action also.

The foregoing account was written shortly after the experiment, and it strikes me now that there is in its rhetoric a touch of the gorgeousness seen in the visions. But the sensations when one is thoroughly drugged with hashish are very powerful, and on coming out from them a person is apt to feel that language is quite inadequate for their expression.

Dr. George M. Beard has quite stirred the town with his experiments in mesmerism, or trance. He has a number of trance-patients whom he summons to his office two or three times a week and then brings out in them the various and curious phenomena characteristic of the condition. The interest in the subject is certainly spreading, and, as now studied, there may some results of practical value arise in mesmeric methods. They have indeed already been used practically in some of the dispensaries of the city, and have supplemented medicines in rheumatic, neuralgic, nervous and joint affections. It is said that there are more susceptible persons in the West than on the sea-board, and experiments on trance-patients will soon be undertaken there. The method, adopted by professionals, of testing the susceptibility of persons to trance, is to make the patient first gaze steadily at the mesmerizer while he places his hand on the forehead and makes gentle strokes with the thumb down towards the bridge of the nose. The patient is told to close his eyes and is gradually but firmly impressed with the belief that the manipulation will prevent

the opening of the eyes. If susceptible it will be found in a few moments that the patient really cannot open his eyes, and then he is in a condition of trance and can be manipulated at the operator's will. The marked features of the condition are that the will of the mesmerized person is held in abeyance, and that he responds in every way to the suggestions of the operator. He sees, feels, hears and imagines whatever is suggested to him, and he does many things which show that his nervous power is greatly concentrated in the directions that are suggested to him. A most striking and demonstrative test of the reality of the phenomena is the increased muscular excitability that is developed very often. By pressing upon the "motor points" with a blunt point the contractions of the proper muscles ensue. Thus pressing on the motor point of the pronator *radii tires* will cause pronation; pressure on the motor point of the abductor *minimi digiti* will cause abduction of the little finger, and so on. Each particular muscle can thus be picked out just as is done with the battery to a patient in a normal condition.

Some very interesting and striking therapeutical results are now being claimed for static electricity. Dr. W. J. Morton is, in particular, trying to revive the use of this form of electricity, and he certainly appears to be justified in his enthusiasm over it. The apparatus used is like that of Charcot, and is very much larger than any heretofore employed by electro therapeutists. General tonic and sedative effects are gotten from it. But in addition, it seems to be peculiarly efficacious in old rheumatic or in neuralgic cases where there is probably some inflammatory effusion or adhesion. By the use of what is called the "electrical wind," conjunctivitis has been aborted also: so at least it is said. Excellent results follow in paralysis, and often much better results than the older forms of electricity give. All this, of course, is only one side of the matter. It may turn out, that on the whole not much more can be gotten from the sparks than from galvanic currents. I have, however, seen some of the results referred to, and cannot but think that static electricity ought to be tried again with better instruments than have so far been used.

The news in literary quarters is not very great. I hear, however, that Wm. Wood & Co. will soon publish a Supplement to

Ziemssen's Cyclopedia, which will bring everything in that treatise down to date. It will be published as a single volume, and will be entirely separate from the Cyclopedia. The same firm will soon publish a work on Histology and Microscopic Technology, which will undoubtedly attract much attention. It is edited by Dr. Thomas E. Satterthwaite, of this city, president of the Pathological Society and well known by his occasional contributions to pathology and histology. The book is written by different American histologists, and will represent concisely not only what Germany has done, but what American investigators have accomplished also.

NEW YORK CITY, Feb. 15, 1881.

ARTICLE IX.

THE MOUNTAIN REGION OF WESTERN TEXAS AS A HEALTH RESORT. By F. Charles Lawrence, A.M., M.D., Kerrville, Texas.

Since the completion of the "Sunset" and International Railways to San Antonio, Southwestern Texas is becoming quite a favorite locality for Western and Northern physicians to send their patients for the winter months, whose condition may require a removal from the inclemency of a Northern winter.

The great majority of invalids remain in San Antonio, having been directed there by their medical adviser, and with all due respect to our learned *confreres* of the North, it would be no exaggeration to state that not more than one in twenty have a personal knowledge of the locality, beyond the reading of an article in some periodical, written by persons who are incapable of estimating the merits of a climate as regards its health-restoring properties.

The leading authorities on phthisis, both American and foreign, advocate, as the most essential qualities of any climate favoring the retardation and cure of this disease, the following climatic conditions, viz.:

A moderate altitude above sea-level, between 1,200 and 2,000

feet, with a moderate rain-fall and freedom from malarial influences. Under this heading may very appropriately be considered the coexistence, with the qualifications just mentioned, of a light, porous subsoil, favoring rapid drainage after rain. *Vide* Buchanan and Bowditch.

A winter temperature sufficiently mild to admit, without discomfort, daily exercise in the open air.

Nutritious, well-cooked food, and properly ventilated sleeping rooms.

Now, San Antonio is located in a valley only 700 feet above the sea, and the atmosphere is more or less highly charged with moisture from the San Antonio river and San Pedro creek, which meander through the town, besides the water that is carried through most of the streets in irrigating ditches. The subsoil is of a clayey character, and during rainy weather its streets are well-nigh impassable for mud, while during the dry season the dust renders life almost intolerable.

Some of the San Antonio physicians send their patients to Boerne, a small village thirty miles northwest of the city; but its location on a substratum of clay, and exposed to the damp south winds which invariably succeed the "Northers," together with its water supply from the Cibolo Creek, which contains a considerable amount of organic matter in solution, renders this point very undesirable in many respects as a winter residence.

Malarial fever of a severe type prevailed there during the months of last autumn, and during a two week's sojourn at the Boerne Hotel, on the banks of the Cibolo, I suffered from a severe attack, only recovering after going up to the mountains.

Thirty-six miles northwest of Boerne, in the midst of beautiful mountain scenery, is the village of Kerrville, the county seat of Kerr county. Its elevation is 1,800 feet above the sea, and possessing so many advantages on the score of health wanting in San Antonio, I take the liberty of placing a description of it before the profession.

Kerrville is located on the banks of the Guadalupe river, whose water is very free from organic matter, and so clear that objects on its bottom may be seen at a great depth. The town rests on a gravelly substratum, and the drainage is so perfect that even

after a heavy rain storm, a few hours' sunshine renders the earth perfectly dry. A high range of hills to the northward breaks the force of the "Northers," while the distance from the sea—over 250 miles—deprives the returning south winds of much of their moisture and rawness.

The winters are very mild, snow and ice, in ordinary seasons, being almost unknown, and the winter sometimes passing without any rain, the invalid may, with the exception of a few days about Christmas, take daily exercise in a balmy and invigorating mountain air.

Good carriage roads extend in various directions, and fine fishing and hunting abound in the vicinity. At the headwaters of the Guadalupe several caves invite the curious to seek for "hidden mysteries."

The people are very kind and hospitable, being persons of high intelligence and culture, who came here in the first and second stages of phthisis and have been completely restored to health.

An additional advantage is now offered by this place, and one not be overlooked by the invalid, viz.: good hotel accommodations and at a moderate price. Mr. J. F. H. Back, of Cincinnati, has recently purchased the hotel in this town, and one can secure, what every one knows who travels in Texas, that *rare luxury*—well-cooked food and clean, comfortable rooms.

During the summer months the heat is never excessive, and with a constant southern breeze and cool nights, the summer can be passed much more pleasantly than at the North. During at least eight months in the year one can sleep in the open air with not only impunity, but in the early stages of phthisis with positive benefit. Invalids who propose coming to this mountain region will find a daily line of comfortable hacks running from San Antonio to Kerrville and the upper country. To any physicians who may desire further information concerning the climate of the country, I will here state that Dr. Petersen, of Comfort, Texas, who has been for some time past a voluntary observer for the U. S. Signal Service in this region, will very gladly answer any inquiries that may be addressed to him on the subject.

Foreign Correspondence.

ARTICLE X.

LETTER FROM VIENNA.

VIENNA, FEBRUARY 6, 1881.

EDITORS CHICAGO MEDICAL JOURNAL AND EXAMINER:

I send you a brief account of a case which is the sensation of the hour in both medical and lay circles here, namely, a resection of the stomach. The operation was first proposed and successfully executed upon dogs seventy years ago by Merrem, and several pupils of Billroth have in recent years made extended researches as to its practicability upon man. The first actual operation upon a human being was made by Péan, in Paris, in 1879, for pyloric cancer, the patient dying on fourth day. Billroth has long been anxiously awaiting an opportunity which finally presented itself, two weeks ago, in the person of a woman forty-three years old, who had enjoyed excellent health until last October, when she began to exhibit symptoms of gastric cancer, and to suffer a corresponding decline in health. Upon examination by Billroth, a tumor as large as an orange was found at pylorus. Deeming the case a favorable one for operation, Billroth made a transverse incision upon tumor, which was found to be carcinoma of pylorus and of lower third of stomach. Adhesions with omentum and colon were carefully broken up—the large and small omenta cautiously separated. All vessels were ligated before division, so that the bleeding was very slight. The tumor was brought out and laid upon abdominal wall, and an incision made through stomach—at first only backwards—one centimeter beyond the infiltrated part. A similar incision was then made

through the abdomen. Six stitches were applied to keep edges of wound together. The incision was then extended, completely severing the stomach. The edges were then united so as to leave an opening corresponding in size to the duodenum. The tumor was then completely separated from duodenum by an incision parallel with that in stomach. The edges of the two organs were then carefully adapted by means of fifty stitches with carbolized silk, and the entire wound cleansed with two per cent. carbolic acid solution. The operation, including narcosis, lasted one and a half hours. This was January 29. The patient has been entirely comfortable—but very slight fever, no pain. During the first days nutrition was maintained by clysters of pepsin and wine, but the woman can now digest milk comfortably. The prospects for recovery from the operation are excellent, as the edges must by this time have become thoroughly adherent. The piece removed was fourteen centimeters long; a goose quill was with difficulty passed through the pyloric orifice. The stomach is not materially changed in shape, though it is, of course, smaller.

W. T. BELFIELD.

THE PYGOPAGI.—The pygopagi is the curious appellation assigned to two young children now on exhibition at the Egyptian Hall, Piccadilly. They present features of singular interest, however, and are well worth inspection, as showing the limits within which it is possible to effect safe delivery of abnormally developed children. The pygopagi are two girls, firmly united at the pelvis, and being everywhere else distinct and separate. Into this conjunction certain of the external genitalia enter also, and how far this may be the case internally must, of course, be a matter of conjecture. Dr. Playfair has manifested considerable interest in the children, and proposes to exhibit them at the Obstetrical Society early in December. As a spectacle the two little objects present nothing to repulse, but are rather attractive in appearance, their movements and expressions being interesting and amusing. That they are perfectly independent in ideas and desires is evident, though they agree apparently in the best possible way. They are well developed for their age, a little over two years, and seem healthy and lively.

Society Reports.

ARTICLE XI.

THE WEST CHICAGO MEDICAL SOCIETY. Stated meeting, February 28, 1881. Prof. H. M. Lyman, M.D., read a Paper on Anæsthesia.

It comprised the history of alcohol, its chemistry and physiological action. Alcohol was extensively used in Europe, as a remedy, since the sixteenth century. Its general sale was authorized in 1676. The British soldiers became acquainted with it in Holland in 1551, and brought it to England. In 1774 it was generally used by the people of all classes in this country.

Alcohol coagulates albuminous substances, and, in large doses, acts as an irritant poison. It produces anæsthesia by diminishing the motion of the nerve-cells, and may in the same manner produce paralysis and death. In doses of one and a half ounces, it reduces the temperature, and in connection with quinine, it will produce a more permanent effect than when the latter is used alone.

These few notes show the wide range embraced by the Professor under the head of anæsthesia. This paper was only a part of a complete work on the subject, which he will have published in the course of the year.

A few questions were asked to and satisfactorily answered by Dr. Lyman. The name of Dr. G H. Peppitts was presented for membership and referred to the censors. Meeting adjourned.

H. D. V.

ARTICLE XII.

WOMAN'S MEDICAL COLLEGE.

The Eleventh Annual Commencement of this institution was held in Centenary Church, March 1. There were seventeen graduates, one of whom did not receive her diploma immediately, because she had not yet attained her twenty-first year. Number of students in attendance through the year, seventy-five. Conferring of degrees by Pres. Wm. H. Byford, M.D., S. H. Stephenson, M.D. The only female professor present distributed the boquets in a very elegant manner.

The class valedictory was rendered by Dr. Ella M. Gilchrist, who gave a brief history of the practice of medicine by women since the beginning of the world, stating that long before the Christian era, women's medical colleges had existed in Egypt. She alluded to the achievements of Russian female doctors in the last Turco-Russian war, and ended this sketch in stating that Elizabeth Blackwell was the first woman who received a medical diploma in this country (1849). Massachusetts has founded the first medical school for woman in modern times. She then enumerated the duties which her class had just entered upon and bid farewell to the faculty. All persons present enjoyed the address to the utmost, and repeatedly applauded the speaker.

The faculty address was given by Prof. Wm. J. Maynard, M.D., and chiefly consisted in timely advice, and the good wishes of the faculty.

The present is the largest class that ever graduated from the college.

H. D. V.

Reviews and Book Notices.

ARTICLE XIII.—A PRACTICAL TREATISE ON NERVOUS EXHAUSTION (NEURASTHENIA); ITS SYMPTOMS, NATURE, SEQUENCES, TREATMENT. By George M. Beard, A.M., M.D., Fellow of the N. Y. Academy of Medicine; of the N. Y. Academy of Sciences; Vice-President of the American Academy of Medicine, etc. 8vo., cloth, pp. xx 198; New York: William Wood & Co. 1880.

This is an eminently American book. The disease of which it treats is much more common in this country than in Europe, and most of its literature was published in the United States, originating with Dr. Beard himself. This fact will bring a difficulty in the way of any reviewer, for one can hardly blame an inventor for an excessive admiration of his discovery, or for extolling it in all directions.

Neurasthenia is the name under which spinal irritation (Hammond), idiosyncrasies and morbid fears, cerebral irritation, hypochondriasis, and many symptoms of an exhausted nervous system are classed. It treats of functional diseases, and is a connecting link between the disease of the body and those of the mind. It is hoped that it will open a new and important field of inquiry into the latter.

It seems that one cause of neurasthenia has been overlooked, or very little appreciated by the author; it is the proper training of the mind. Let the reader imagine an Indian, or any wild man, thrown all at once in the midst of advanced civilization, and he can form an idea of his awkwardness, and the desperate struggle of his mind to grapple with the difficulties of the situation. He may not be able to stand it at all. Every one of us is born an

ignorant being. Little is our stock of inherited knowledge, though a peculiar disposition for acquiring it surely passes from parents to children. Until a comparatively advanced age, very little has been learned about the million intricacies of human life and civilization, yet if one stops learning at any period of his life, he must remain ignorant of many facts; his faculties will remain rudimentary in that direction, and he will exhibit those rude, whimsical, or eccentric peculiarities, which, after all, are nothing but a lack of the necessary training. His brain will remain weak and childish from a want of proper culture. Nay, some persons will take pleasure in encouraging these fancies; vital energy must expend itself, and many are the insane who owe it to themselves for their wretched condition. Life in a highly civilized community is a hard trade to learn, many are its drawbacks, yet it lacks its schools and its teachers; while remedies will do little for idiosyncrasies and morbid fears, despite the assertions of Dr. Beard.

This book is highly interesting, but, we are sorry to say, has too much in common with the pamphlets of advertising physicians.

Ergot, arsenic, cannabis indica, opium, caffeine, zinc, the bromides, chloral, strychnia, electricity and massage are the drugs and remedial agents relied upon by the author, with greater attention to hygiene than is recommended in most diseases.

H. D. V.

ARTICLE XIV.—TRANSACTIONS OF THE MINNESOTA STATE MEDICAL SOCIETY FOR THE YEAR 1880. St. Paul: H. M. Smyth & Co.

A copy of the proceedings of the State Medical Society of Minnesota is at hand and reflects great credit upon the profession of that progressive commonwealth.

Within its pages are discussed some very important topics. The essay upon "The Law of Heredity," by Dr. Daniel Leasure, of St. Paul, is a very well written *résumé* of the views of the best authorities upon that subject. Dr. Emery, of Minneapolis, contributes an article upon "Medical Education," in which he advocates the general use of the metric system among physicians.

The article entitled "Cardiac Hypertrophy, with Valvular Lesions," by J. P. Squires, M.D., is the report of a very interesting case. It is illustrative of the different opinions held by different practitioners concerning the same case.

The *lack of an index* is a serious defect in this volume and detracts much from its completeness as a good specimen of bookmaking. B. W. G.

ARTICLE XV.—THE MICROSCOPE AND MISCROSCOPIC TECHNOLOGY; A TEXT BOOK FOR PHYSICIANS AND STUDENTS. By Heinrich Frey, Professor of Medicine in the University of Berlin. Translated and edited by George R. Cutter, M.D., New York.

This work has passed through several German and one English edition, and is already well known to the English speaking public. This edition has been improved by the addition of new matter, a better type and paper, and the enlargement of the pages. The notes of the American editor are enclosed in brackets and add much to the value of the book. In the department of pathology we find these pages remarkably scant, the author referring to it only as morbid physiology, and the work consists, after the first few chapters devoted to the mechanisms, testing and manipulation of the microscope, and the preparation and mounting of objects, of a close exposition of microscopical anatomy. We regret to see so many of the cuts destitute of the clearness requisite to accurate illustration, and in Section IV. on "Testing the Microscope," occurs an apparent discrepancy of statement, which in some future edition we would like to see explained. The author tells us that a good objective, magnifying eighty or one hundred times, should, with the proper illumination, enable one to recognize the systems of lines sharply and distinctly on each scale of the Pleurosigma Angulatum, while weaker objectives, magnifying forty or fifty times, should show something of the lines. To the same paragraph is appended an illustration of this well-known test diatom apparently magnified at least four hundred and fifty times. Further on we read that Hortnack's newly-constructed No. 9 will resolve the lines clearly; likewise his No. 8. Then, turning to the price list of this manufacturer, in the

appendix, we find the magnifying power of these systems with the lowest eye pieces stated as four hundred and ten and two hundred and fifty. There are also a number of inacuracies in the index.

These faults indicate hasty preparation and revision, ill-suited to so important an adjunct to the medical library as this work is intended to be. W. L. D.

ARTICLE XVI.—THE MICROSCOPIST. A Manual of Microscopy and Compendium of the Microscopic Sciences: Micro-mineralogy, Micro-chemistry, Biology, Histology and Practical Medicine. Fourth edition: enlarged, with 252 Illustrations. By J. H. Wyeth, M.D., Professor of Microscopy and Histology in the Medical College of the Pacific, San Francisco, California. Philadelphia: Lindsay & Blakiston.

This excellent work has been evidently very carefully prepared, and the amateur microscopist and studious physician will find in it a very satisfactory aid to study. While matters of mere curiosity receive but brief attention, every necessary fact and principle relating to microscopy is carefully stated and classified.

Practical medicine receives most attention, and the chapters on histology, pathology, diagnosis and etiology constitute the larger part of the book. They are finely illustrated; most of the cuts in the three latter being very clearly transferred from Rindfleisch. Many of the colored illustrations are fine, and an excellent thing we notice is that, appended to most of the cuts are figures showing the amount of enlargement of the subject in diameter. Owing to the progress of microscopic science and the constant improvement in optical invention it has been found necessary to provide an appendix in which microscopic technology is brought well up to date. An index and glossary of microscopic terms closes the book. It has evidently been the author's intention to furnish, not so much an exhaustive treatise as a *résumé* of microscopy which will enable the student in any department to pursue original investigations with a general knowledge of what has been accomplished by others, especially considering the needs of physicians and students of medicine. W. L. D.

ARTICLE XVII.—A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By Frank Hastings Hamilton, A.M., M.D., LL.D., Surgeon to Bellevue Hospital, New York; Consulting Surgeon to Hospital for Ruptured and Cripples; to St. Elizabeth Hospital, etc.; Author of a Treatise on Military Surgery and Hygiene, a Treatise on the Principles and Practice of Surgery, etc. Sixth American Edition, revised and improved. Illustrated with 352 wood cuts: 8vo. pp. 909. Philadelphia: Henry C. Lea's Son & Co. 1880.

Extract from preface to the sixth American edition:

"The present work remains, therefore, the only complete treatise on fractures and dislocations, in any language, except the treatise of Malgaigne, which latter has undergone no revision or republication since the date of its first edition" (1855).

The present work is the pride of American surgical literature. It is so well known by the profession at large that it seems useless to state that no surgeon should be without it.

The author is endowed with that soundness of judgment and criticism which few writers possess on subjects which they have made a specialty of, and this did not contribute little towards the well-deserved popularity of a book which has in twenty years reached its sixth edition.

It is handsomely printed, and beautifully illustrated with cuts, several of them new, that are indispensable in such a work, and represent all the latest improvements in mechanical surgery. It contains a chapter on General Prognosis, and one hundred pages more than the preceding edition. A large part of it has been re-written. H. D. V.

ARTICLE XVIII.—MINOR SURGICAL GYNÆCOLOGY. A Manual of Uterine Diagnosis and the Lesser Technicalities of Gynæcological Practice; For the Use of the Advanced Student and General Practitioner. By Paul T. Mundé, M.D., Professor of Gynæcology in Dartmouth Medical College, etc.

The subscribers to Wood's Medical Library will find this a very satisfactory addition to it. It is written for the class, to supply whose needs this series was first introduced, the general practitioners. While its necessity may not impress itself upon

the gynæcological expert who by years of practice and research has familiarized himself with every detail of his specialty, or to the favored student who has secured to himself a practical course in gynæcology; yet to the large majority of the medical profession these practical chapters will be of great value. Emmet's maxim, "Success in the treatment of the diseases of women lies wholly in attention to minute details," sounds the key-note of these pages. Nor do historical lumber or literary research encumber them, but each one presents valuable hints for the daily use of the beginner in gynæcological art, so clearly is every digital and instrumental detail of the various manipulations and minor operations, which he is liable to meet with every day, laid before him.

The work is illustrated by three hundred wood cuts of instruments, tables, positions, pessaries, etc., many of which will be recognized, some of which are new.

W. L. D.

Article XIX.—The Descriptive Atlas of Anatomy. A Representation of the Anatomy of the Human Body; in 92 Royal quarto plates containing 550 figures: pp. vii-92, 11. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1880.

This atlas is anonymous, a poor recommendation in medicine. "Every figure has been carefully revised by a Metropolitan Hospital surgeon and a successful teacher of Anatomy in one of the chief London medical schools." He should have drawn the figures himself, we are sorry to say, for some are ill-executed: the vulva, for instance, looks as if it had been drawn from imagination, not from nature.

It is a cheap book, with too darkly shaded cuts, indistinct types, and many abbreviations not supplemented in the page. It does not come up to the standard of the plates of Gray's Anatomy, and must prove of little value to students in this country, while practitioners need better works. It is a blunder to paint bones black, and use black types over them. It is useless to precede the names of every muscle by an *M* when the cut represents nothing else.

"Hepar, stomachus, cystis fellea, cavum peritonei," etc., are obsolete, as well as the lobus dexter and lobus sinister of the liver. The coloring of arteries and veins is an old idea devoid of advantages, since the color is so little in the living subject. The only advantage of that atlas is cheapness and a multiplicity of figures. H. D. V.

ARTICLE XX.—A PRACTICAL TREATISE ON SURGICAL DIAGNOSIS, DESIGNED AS A MANUAL FOR PRACTITIONERS AND STUDENTS. By Ambrose L. Ranney, M.D., Adjunct Professor of Anatomy, and Lecturer on Minor Surgery in the Medical Department University of New York. Wm. Wood & Co., 1879; 386 pp.

As is implied in the title, this book touches upon points of Differential Diagnosis only, omitting all questions of Etiology, Pathology and Treatment.

By reading across the page the contrasting points are well brought out, while the particular symptoms are shown from above downward. The reader will be well repaid for his study of fractures, dislocation, hernia and tumors.

Dr. Ranney has arranged a valuable book for the profession. J. H. T.

ARTICLE XXI.—THE CAUSES AND RESULTS OF PULMONARY HÆMORRHAGE, WITH REMARKS ON TREATMENT. By Reginald E. Thompson, M.D. Illustrated; 130 pp. London: Smith, Elder & Co., 1879.

Upon the subject of this volume the author has expended, as he tells us, much diligence and many years of study and investigation. It is the outcome of the physical examination of over twenty-two thousand patients while living, and over three hundred of the same patients *post mortem*. The opening chapters treat in a condensed way of the anatomy of the lung, the pathogeny of hæmorrhage, while the body of the book is made up of clinical cases illustrating inherited predisposition to bleeding, causes, physical signs, sequelæ, consequences, treatment, etc.

It is an interesting, readable monograph upon the subject of Pulmonary Hæmorrhage, and should be read by all. J. H. T.

Article XXII.—Diseases of the Throat and Nose, Including Pharnx, Larynx, Trachea, Œsophagus, Nasal Cavities, and Neck. By Morell Mackensie, M.D., London; Senior Physician to the Hospital for Diseases of the Throat and Chest; Lecturer on Diseases of the Throat, at the London Hospital Medical College, etc. Vol. I. Diseases of the Pharynx, Larynx, and Trachea. 8vo. pp. 570, cloth. Philadelphia: Presley Blakiston. 1880.

Dr. Mackensie's book is as good as, and not any better than, many works of the same kind. A good classification of subjects, useful references to authors who treated them before, a vast experience at the command of the author, the exclusion of superfluous matter, are so many advantages which will make of it a reference book of much usefulness. But it is one of those works which each old lecturer must produce on his special subject once in his life. It may prove very useful to the House Physician to the "Hospital for Diseases of the Throat and Chest," may be to physicians in general, in England; but it will not answer the purpose of the average American practitioner, on account of its deficiency in what relates to treatment.

There is a superfluity of etiology and diagnosis in our days with a lamentable scantiness of the methodical treatment of each disease in its various forms as met with in this country, and this is precisely what the profession in America is craving for, and what the book of Dr. Mackensie lacks; although it would be a good addition to a large library. It is well printed, has very few typographical errors for a first edition, and enough pretty cuts to illustrate the subject. H. D. V.

Article XXIII.—Diphtheria: Its Causes, Prevention and Proper Treatment. By J. H. Kellogg, M.D. Good Health Publishing Co., Battle Creek, Mich.; 64 pp.

This small work is one of a series of popular medical literature, and aims to so educate the public mind on the matter of early treatment of the disease as to render efficient aid to the physician when called. Certainly there is great need of a good deal of popular knowledge on this subject, for the fragmentary articles published in the family papers go but a small way towards educating the people in this matter.

In so small a work, in our opinion, it is hardly necessary to describe and arrange the disease into classes—all phases of but the same disease.

It is, on the whole, a book needed in the household, of service to those having children, and should be widely circulated.

J. H. T.

ARTICLE XXIV.—A GUIDE TO THE PRACTICAL EXAMINATION OF URINE, FOR THE USE OF PHYSICIAN AND STUDENT. By James Tyson, M.D., Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania. Third Edition, revised and corrected. With illustrations. Philadelphia: Lindsay & Blakiston, 1880; 183 pp.

Dr. Tyson has in this edition simply rearranged somewhat his previous editions, making a very neat and compact manual on the subject of Urinalysis.

Some of the less important matter of the two previous editions has been omitted, with the view of keeping the size of the volume within its original limits.

The cuts are good, some of the older and poorer ones being replaced by some more satisfactory. The book is so bound as to lie open upon the laboratory table ready for reference. It can be recommended as reliable and convenient. J. H. T.

ARTICLE XXV.—HANDBOOK OF SYSTEMATIC URINARY ANALYSIS —CHEMICAL AND MICROSCOPICAL. By Frank M. Deems, M.D., Laboratory Instructor in Medical Department, University of New York. New York: Industrial Publishing Co., 1880; 30 pp.

Will afford valuable aid to both student and practitioner. Can be recommended to all. J. H. T.

ARTICLE XXVI.—THE MICROSCOPIST'S ANNUAL FOR 1879. Edited by John Phin. New York: The Industrial Publishing Co., 1880; 48 pp.

This is a handy little volume to have: contains complete list of microscopical societies, dealers in apparatus and accessories, postal information compiled especially for microscopists, duties on imported instruments, etc. To be issued annually.

J. H. T.

BOOKS AND PAMPHLETS RECEIVED.

Excision of Cancer of the Rectum, a Study of 140 Cases. By Chas. B. Kelsey, M. D.

Report of the Louisiana State Board of Health for 1880.

On the Introduction of Food and Medicine into the Stomach when the Ordinary Channel is obstructed. By T. Humbert, M. D.

Electricity in Medicine and Surgery. By John J. Caldwell, M. D.

Errors in the Diagnosis of Eye Diseases. By S. Theobald, M. D.

Catalogue of Medical School, Harvard University, 1880-81.

The Surgical Treatment of Cancer of the Rectum. By Chas. B. Kelsey, M. D.

The Sanitary Problems of Chicago, Past and Present. By John H. Rauch, M. D., Secretary State Board of Health of Illinois.

The Development of the Osseous Callus in Fractures of the Bones of Man and Animals. By H. O. Marcy, M. D.

The Treatment of Ophthalmia, Purulenta Gonorrhorica and Neonatorum, with Clinical Remarks. By C. A. Lambert, M. D.

Abdominal Pulsation, Simulating Aneurism of the Abdominal Aorta. By John Williams, M. D.

Anæmia in Infancy and Early Childhood. By A. Jacobi, M. D.

Cæsarean Section (Porro-Müeller method) with Removal of Uterus and Ovaries. By Elliott Richardson, M. D.

The Treatment of Hip Disease. By E. H. Bradford, M. D.

Winter Health Resorts. By Boardman Reed, M. D.

Scarlatina. By Dr. Wm. B. Atkinson.

Cases Treated by the Lister Method. By T. H. Gerrish, M. D.

Phthisis Pulmonalis. By L. De Brémon, M. D.

Otitus Medica Non—Suppurativa Chronica—1,000 Cases. By E. E. Holt, M. D.

The Asylums of Europe. By Geo. M. Beard, M. D.

Minor Surgical Gynæcology. By Paul F. Munde, M. D.

Transactions of the Minnesota State Medical Society for 1880.

Bulletins of the Public Health. Issued by the Supervising Surgeon General, Washington, D. C., 1880.

Proceedings Louisiana State Medical Association for 1880.

Hand Book of Urinary Analysis, Chemical and Microscopical. By F. M. Deems, M. D.

Second Biennial Report of the Illinois Eastern Hospital for the Insane, at Kankakee, Ills. October 1, 1880.

Report of Albany Hospital for two years ending January 31, 1880.

Rocky Mountain Health Resorts. By Chas. Dennison, M. D.

Transactions State Medical Society of Wisconsin for 1880.

Atlas of Histology. By E. Klein, M. D., and E. N. Smith, M. D. Parts xii and xiii.

Atlas of Skin Diseases. By L. A. Duhring, M. D. Part vii.

SPECIAL NOTICE.—We desire to inform the friends of the JOURNAL AND EXAMINER, that a man by the name of W. G. Gano, is going about the country collecting money on the JOURNAL account and making no return of it here. He has *no authority to make such collections.*

The JOURNAL employs no agents. It endeavors to transact all of its business *directly* with the profession. We take this method of informing the profession that, in paying money to any person representing himself as our agent, they do it at their own risk.

WHOOPING COUGH has been successfully treated by Dr. Barety, of Nice, by turpentine vapor. By accident, a child severely affected, was allowed to sleep in a room, recently painted and redolent with turpentine odor, when noticeable improvement took place. Dr. B. has since employed this drug, placed in plates and allowed to stand in the rooms occupied by whooping cough patients. He holds that the disease is mitigated and its duration lessened by this simple expedient.

Selections.

I. Nervous Diseases.—Migraine.* By Thos. Lothrop, M.D.

The word Migraine, used by the French, and Megrim of our own vernacular, have a common Greek derivation, and are employed by the neurologist to designate a variety of neuralgia, usually considered to be trigeminal, one of the most common forms of this very prevalent disease. It is selected as an important subject for investigation and inquiry, especially so in view of its alarming frequency during the period of bodily development, when the system is under the strain of excessive mental work. We may regard the present faulty system of female education, in which the nervous system, especially prior to puberty, is exercised to an extent disproportionate to its powers of endurance, while the muscular, the digestive, and the vascular functions are so far neglected that they fail to impart the vigor required to maintain the body in a healthy equilibrium, as an important causative element in this and other varieties of the neuroses. The increasing frequency of nervous disorders in our American life, embraces a field for professional study, which has brought forth some of the best contributions to recent medical literature.

In discussing migraine, the writer is compelled from necessity to treat in a practical way, avoiding as far as possible useless and vague theories, while attempting to show what is known of its etiology, and also what can be done for its relief.

Pre-eminently migraine is an inherited disease. This may be more positively stated than in regard to any other of the neuroses. A case has fallen in my own experience of a mother who trans-

* Read before the Buffalo Medical Club, August 18, 1880.

mitted to her offspring this legacy of suffering she herself had unfortunately inherited. A young medical friend, the victim of the disease, traces its origin to his mother, who is the subject of severe trigeminal neuralgia, which she inherited from an epileptic parent. The reciprocal relation existing between migraine and epilepsy has been taken as an argument to prove the identity or similarity of causes, and of lesions giving rise to the two diseases. Assuming that migraine is a form of trigeminal neuralgia, Anstie, Seguin, and others conclude that a lesion exists in those portions of the pons variolii and medulla oblongata, which give rise to the sensory roots of the trigeminus. This centric origin of the disease, it seems to me, is more easily assumed than clearly demonstrated, and yet its analogy to epilepsy in many of its features points to the great nerve centers as its source and origin. The best authority on the etiology and pathology of neuralgia, leads the inquirer into a network of finely spun theories, from which we escape but little the wiser for the venture. This want of positive knowledge in regard to the causes of many of the neuroses leads to indefiniteness in nomenclature, and also to great difficulty in differential diagnosis. In proof of this we may cite the fact that many writers use as synonymous terms hemicrania and migraine, and describe the symptoms and phenomena observed in this variety of neuralgia under one or both of these terms, while the disease under consideration is often, indeed most frequently, termed trigeminal neuralgia.

In endeavoring to ascertain the causes of this form of neuralgia, it seems to me that the function of the spinal cord, simply in the transmission of reflex-sensations, is too little considered, and that too great stress is placed upon its centric origin. It is acknowledged that a peculiar susceptibility to reflex action prevails in certain temperaments, while in others, all possible reflex sensations are difficult and often impossible to produce. The cause of this is as difficult of explanation as any other individual idiosyncrasy. The trigeminus, either on account of its origin, or of its distribution, clinically is known as a frequent avenue for the transmission of reflex sensations, conveyed to and through the spinal cord from a variety of sources in the organism. The reason for this is also not clear. We may conjecture that the

ganglionic cells of that portion of the medulla from which the trigeminus takes its origin, possesses a peculiar susceptibility to the reception of impressions, and therefore the most common avenue for the transmission of such impressions. In the pathology of this and other neurotic diseases, we cannot fail to recognize the important position of reflex action. In migraine, whether its origin is traced to a spinal lesion, as the primary seat of the disease, or whether such lesion, if any exist, is secondary, due to the effect of constant excitation upon the ganglionic cells of the medulla, such excitation primarily arising from morbid processes at the periphery of nerves, or whether it is really a neurosis of the sympathetic nerve, there is a broad field for scientific inquiry, which is at present imperfectly understood.

Seguin points to the similarity of symptoms and conditions in migraine and epilepsy, and conjectures the centric origin of migraine. It is known that cases of migraine have finally resulted in epileptiform seizures. Brown-Séquard, as early as 1850, called attention to the relation of lesions of the spinal cord and certain spinal nerves to epilepsy, while Van der Kolk in an exhaustive work, which is included in one of the early volumes of the new Sydenham Society publications, demonstrated in epilepsy a lesion of the posterior half of the medulla. Contraction of the vessels of the cerebral pia mater has also been observed by Brown-Séquard in epileptic animals, while others have observed that irritation of the peripheral nerves produces a like contraction of the cerebral vessels which explains epileptic seizures under the influence of peripheral irritation. This may be termed reflex epilepsy, and in the lighter forms, epileptic vertigo or petit mal. The occurrence of the aura of migraine, similar to the aura of epilepsy, is an interesting coincidence in considering these two varieties of the neuroses, while the periodical return of attacks of migraine, similar to that observed in epilepsy, is also deserving of note.

These subjective conditions, giving rise to these two diseases are referred to in this connection to explain a position, which, while it has not been established by actual experiment and investigation, may be inferred from the premises we have laid down: that is, inasmuch as it is established that epilepsy is due to a

spinal lesion, and there exists a similarity of symptoms in the two diseases, we may be justified in saying that in *well-established* cases of migraine there will be found a like condition of the ganglionic cells of the medulla. I think this inference is justified by the facts, which have been imperfectly presented. Further investigations in pathology of the neuroses will, I do not hesitate to say, fully corroborate this view.

Migraine also is essentially one of the hystero-neuroses. The sexual organization of woman is the source of a series of nervous phenomena, which, while they are heterogeneous in their manifestations, are closely allied in their etiology. A pathological condition of the uterus and its appendages in which we include the ovaries, is a fruitful source of reflex impressions. The trigeminus and sympathetic nerves are frequent avenues for the transmission of these impressions to and from the spinal cord and medulla. But little is found in medical literature upon this subject. Fordyce Barker, in his work "On the course and treatment of reflex insanity in woman," demonstrates the influence of the uterus in its periodical menstrual changes, in its pregnant condition, as well as during the period subsequent to parturition as a causative element in the production of mental aberration. In the causation of the neuralgias there exists a close and undisputed relation, borne out by facts, occurring in daily professional experience. The most severe cases of migraine met with in practice are connected with the menstrual epoch.

The relative proportion of cases in the sexes is, according to Eulenberg, as five in the female to one in the male. This predisposition of females to the disease is a fact deserving of consideration, and points to the menstrual function as among the most frequent of the probable causes. The occurrence of attacks of migraine in females, who are not subjects of dysmenorrhea, and in whom the uterus, from the most careful examination, fails to unfold any organic lesion, is a problem for the neurologist to solve. Cases are not infrequent in which at every menstrual period, migraine is as certain as the menstrual flow itself, and the victim suffers, not from the local congestion or hyperæmia, incident to this peculiarity of her sex, but from reflex sensory impressions which have been transmitted from a distant part of the organism,

to the head, only to increase the torture, which would be more tolerable if confined to its seat of origin.

It would weary your patience, and prove too great a tax upon my time, to attempt to notice the various causes of migraine, and their relations to local and constitutional conditions. Enough has been said to direct attention to the more prominent and important conditions. Neither would it be profitable to refer to its symptomatology, which must be familiar to all. The importance of therapeutical indications to the practitioner so far transcend all other questions, when called to the bedside of a victim suffering from this disease, that the writer begs to direct attention to its treatment, with hasty reference to such cases as may be of practical utility to members of the Club.

The principles enunciated above afford a natural subdivision for the treatment:

1. Treatment of the prodromata.
2. Treatment of the attack.
3. Treatment of the pathological condition of the nervous system upon which migraine depends.

PHILADELPHIA SCHOOL OF ANATOMY

1. Plainly if the migraine depends upon atonic dyspepsia, the use of nux vomica in small doses, as for instance, one drop of the tincture every hour during the waking hours, combined with tincture of belladonna in half or fourth-drop doses, will prove of benefit. Seguin also recommends the patient to reduce the saccharine and amylaceous foods. In cases depending upon anæmia, depraved nutrition, tonics of iron and cod-liver oil are indicated.

2. Treatment of the attacks. If depending upon the presence of undigested food in the stomach, a good emetic is the speediest and most effectual way to relieve the sufferings; avoid all food during the attack; give the stomach rest; an exception to the rule may be made in cases in which the patient strongly desires some particular article. I have a case on hand in which dried beef has "touched the spot," to use the words of the sufferer; another in which a few strawberries would satisfy the stomach. These are only suggestive, and afford a practical hint which may be useful. I have also known a few teaspoonfuls of whisky to afford relief. There can be no doubt of the efficacy of guarrana in the early period of the attack. The fl. ext. in doses of two

teaspoonfuls every half hour, until three or four doses have been given, especially if given before nausea sets in, has often proved beneficial in my hands, and as often failed. It is deserving of a trial.

Another and more recent remedy is found in the nitrite of amyl. Eulenberg (Ziemmsen's Cyclo., vol. xiv, p. 27) states that "the indications for its use depend on the fact that it possesses the power of dilating the blood vessels, although whether by acting on the contracted elements or by paralyzing the vaso-motor system is yet unsettled." Dr. Berger, in the *Medical Times and Gazette*, (1870, II, p. 469) first employed this agent in a case of migraine with almost instant effect: "the pain was charmed away" as it were, and did not return during the day. Holst states that in a female patient the attack itself was not only cut short, but its recurrence was postponed longer than usual.

Dr. Geo. M. Beard recommends caffein in 2 grain doses, to be repeated every hour until three or four doses have been given, and claims for it positive merits.

Chloral hydrate is also recommended in doses of 10 to 15 grains, but fails in my hands.

But the surest remedy is morphia administered hypodermically. In doses of one-fourth grain combined with one-thirtieth to one-sixtieth of atropia, it is *par excellence* the remedy in the severer forms of migraine. I especially direct attention to the combination of morphia and atropia. The use of the latter remedy is very important. The reason is found in the similarity of migraine to epilepsy, in its pathological relations. A large experience in the use of these remedies in the severer forms of migraine, has convinced me of their necessity and great utility. It is useless to waste time in any other direction. I am now referring to the more violent forms. In the mild cases, I would not advise its use; other and safer remedies can be substituted, and in the majority of cases the disease made to yield.

3. The treatment of migraine as a pathological entity, with a view to its cure, is a most important matter. Reference has been made above to the lesion of the medulla, upon which migraine is supposed to depend, and upon its similarity in some of its features to epilepsy, with a view to direct attention to the

therapeutical indications. Lesions of the spinal cord, and especially of its cranial portion, have generally been found intractable to treatment, and efforts towards their alleviation and cure have not been attended with results at all satisfactory to the profession. The introduction of the bromides has worked a marvelous change in the treatment of epileptiform disease since Van der Kolk gave to the profession a rational idea of its pathology. The system he recommended of prolonged blistering near the occiput, from which he claimed excellent results, has been supplanted entirely by the bromides, to which belladonna and its alkaloid, atropia, have become valuable auxiliaries. What the bromides and belladonna are to epilepsy, cannabis indica is to migraine; not that either of these medicinal agents, or any combination of them will cure every case that may come under observation, but that they will relieve many, and such as are not dependent upon severe spinal lesions, is now generally accepted by the profession.

In 1872, in a short article, contributed to the *London Practitioner*, Dr. Richard Greene brought out cannabis indica as the important remedy for migraine. Prof. Seguin, in the *Medical Record* (vol. XII, page 774, 1877), in an excellent article, confirms the experience of Dr. Greene in the use of this agent, and substantiates his view by the experience of other eminent medical men.

The principle of treatment laid down by Dr. Greene, is to maintain by the use of small doses of the agent, a constant influence upon the nervous system for a long time, the same as is required in epilepsy by the use of the bromides. At first, as a matter of course, no appreciable effect is observed, and not until the use of the remedy is persevered in for many weeks, and the nervous system kept under its influence for a considerable time, will the patient find an appreciable diminution in the severity and frequency of the attacks. It is well to commence with one-fourth grain of the extract, before each meal, for the first fortnight. The dose may be increased to the third of a grain for the second fortnight, to be augmented to a half grain, at the end of four weeks. This amount will generally be sufficient and should be faithfully continued for several months. Success here is only

obtained by persevering effort. Failure is often complained of, when, on inquiry, the agent has not had a fair trial; and to this want of perseverence in other diseases, beside the one under consideration, may justly be ascribed many of the discouragements which attend the well-directed efforts of painstaking and conscientious practitioners.

The writer would not have trespassed upon the time and patience of the Club, if the facts and principles above enunciated were not borne out in his own practice. A case is in hand in which hereditary influences bore a prominent part in its causation; in which the skill of the most eminent men in the metropolis had failed to afford any relief, the patient finally resigning herself to the suffering which seemed inevitably to be entailed upon her at each menstrual epoch, the only hope of relief being in the approach of the climacteric which was many years in the future. Hemicrania, in its severest form, with nausea, insomnia always followed each menstruation. Life was indeed burdened with the anticipation fulfilled with never-varying certainty of two or three days in each month of suffering from which there seemed no escape, and hence no relief. The prolonged use of cannabis indica for the period of one year, has afforded such relief that the nervous system has had time to regain long-lost vigor, and the patient is in better health than for many years. Other cases might be cited confirmatory of the utility of the agent. Is the question asked, Has the remedy ever failed in my hands? and I can answer that it has not in any case in which its prolonged use has been made. The trouble is in the want of perseverence of the patient, not in the efficacy of the remedy. I venture to say, however, that in cases due to an aggravated lesion of the medulla, in subjects of feeble nutrition, and of an exhausted and worn-out nervous system, there could not be expected relief from any remedy. Physicians cannot re-mould their patients, nor infuse into their exhausted organizations a larger measure of vital force than they were endowed with at their birth. Migraine, or any other disease, in such subjects, is beyond the reach of medical skill; but in well-selected cases, indeed, in the majority of cases, if we do not succeed in affording permanent relief for all, we certainly will diminish the

severity of the attacks, and the frequency of their recurrence, just as surely as we accomplish this end in epileptiform seizures by the use of bromide and belladonna.

This contribution, for which an apology is due the Club for its imperfections on account of the haste in which it has been prepared, and also on account of the paucity of information in medical literature, especially in regard to migraine, is hesitatingly presented with the earnest wish that it may lead its members to investigate a most interesting type of disease, and also to the use of the important remedy here suggested.—*Buff. Med. and Surg. Jour.*

II. STRETCHING THE FACIAL NERVE FOR THE RELIEF OF SPASM OF THE FACIAL MUSCLES.

Dr. Allen Sturge and Mr. Godlee presented a paper on this subject. The patient, a lady, aged 72, had been sent to Dr. Sturge by Mrs. Garrett-Anderson. She had enjoyed good health until the death of her husband, six years previously. After this, her nervous system suffered much: she had fits of depression and debility; and, before long, twitching began round the right eye, extending subsequently to all the muscles supplied by the right facial nerve. She had gone through various courses of treatment without result; and she finally consented to have the facial nerve stretched. The operation was performed by Mr. Godlee on July 20th, by means of an incision behind the ear, from the external meatus nearly to the angle of the jaw. The sterno-mastoid and the parotid gland were pulled in opposite directions, exposing the upper border of the digastric, close to which the nerve was found as it emerged from the stylo-mastoid foramen. The nerve was raised on a hook, and pulled with moderate force. After a few such pulls, the right side of the face was completely paralyzed. The wound was dressed antiseptically, and healed without the appearance of a drop of pus, or the slightest constitutional disturbance. The face remained paralyzed for two months; and for some days after the operation there was a good deal of pain on the right side, and also in dif-

ferent parts of the head, which returned at intervals during these two months. When seen on October 19th, three months after the operation, the face at rest was nearly symmetrical on the two sides; but there was still a good deal of deficiency of movement in the muscles on the right side. She was, however, rapidly improving, every week making a considerable difference. The operation had now been performed five times—three times in Germany by Baum, Schussler and Eulenberg; once in America by Dr. James J. Putnam; the present case being the first case of the kind in England. In all these cases there was temporary paralysis after the operation, varying from two weeks in Baum's case to five months in Eulenberg's. It was remarkable that in every case in which the facial nerve had been stretched for spasmodic tic, the operation had been successful; whilst in several cases of spasmodic affection of other parts, as of the arm, etc., the stretching of the nerves of the part had produced no good effect. In these latter cases, the spasm had usually been of an elaborate character, allied rather to chorea; whereas the former was a simple unco-ordinated spasm of all the muscles supplied by a single nerve. The latter character would indicate a lesion in the center from which the facial nerve took its immediate origin, *i. e.*, the medullary center; whereas the former would point rather to a lesion of the co-ordinating center higher up in the cerebro-spinal axis. The stretching of the nerve certainly produced an immediate effect upon the nerve trunk itself, and it probably also produced a remote effect upon the nerve centers, which effect would be greater upon the lower centers, such as that of for the facial nerve in the medullar, than in those further removed, which were supposed to have to do with co-ordination. In all cases were nerve-stretching was employed for spasms, it would be very important to note whether the spasm was of the simple or of the co-ordinated variety, with a view to ascertain its relative value in the two varieties. The operation was rendered difficult on the living subject by the depth of the nerve and the constant trickling of blood into the wound. The operator should, therefore, secure a good light and efficient assistance. The posterior or auricular vein might very likely be cut on the first incision, and the posterior auricular artery at any period during

the dissection. No vessel of any consequence was, however, likely to be injured if the wound was not carried more deeply than the digrastric muscle; should this level be passed the surgeon would find himself in dangerous proximity to the internal jugular vein.—Dr. Buzzard inquired if the effects of pressure on different parts of the face had been tried. This treatment had been found to stop chronic spasm, as in a case under his own care some two years ago. In another case, an accumulation of cerumen in the external meatus set up, by irritation, neuralgic pains, which ceased on removal of the wax and frequent application of a constant current. Dr. Buzzard said he had, at the present time, a man in hospital who was still under treatment, and in whom the supraorbital nerve had been stretched for neuralgia.—Mr. Walsham said that early in the year he had stretched the infra-orbital nerve for severe neuralgia; there was no pain after the operation. He believed the nutrition of the nerve to be that chiefly affected in the operation; this would not influence the intracranial centers, and the separation of the supplying minute vessels from the trunk of the nerve, might sufficiently account for the effects produced. Dr. Sturge said pressure had been made on different parts of the face without effect, and the final operation was had recourse to when all other treatment failed.—Mr. Godlee observed that the stretching must affect both the sheath of the nerve and the vessels. He had another case in which the nerve was stretched the preceding Wednesday, and was succeeded by twitching on both sides of the face.—Mr. Croft related his experience of a case to which he was called by Leibrich in 1877, and in which he cut down to the infra-orbital nerve of a patient, aged 65, who had suffered from severe convulsive neuralgia, the pain radiating along the branches of the infra-orbital nerve. He removed about five-eighths of an inch of this, and stretched it well, until a sense of "giving" was felt in the canal. The operation was performed on Wednesday. On the following Monday the patient left for Adelaide, whence a letter was dispatched saying that, for a time, pain and muscular spasm persisted, and then subsided. Six months later, an attack of gout was followed by convulsive neuralgia, which also subsided. After another six months, however, the pain once more

returned, and to it succeeded permanent relief. Mr. Croft felt at a loss to define the correct treatment for such cases, some recommending a sensory, and others a motor, nerve to be operated on. He did not believe the center of disease to be intracranial. He remembered a case where, following amputation below the knee, the exposed nerve-ends were irritated, and became bulbous. The nerve was cut down on and resected, the ends being well stretched until they "gave" above. The patient, who was a lunatic, and under constant observation in an asylum, had suffered no return of the pain.—*British Medical Journal.*

III. A PHYSICIAN'S PROBLEMS IN PSYCHIATRY.

Dr. C. H. Hughes, of St. Louis: Psychiatry is preëminently a practical subject. Comparatively few general practitioners have had adequate opportunity afforded them of practically studying this disease. The protean phase of mental alienation is mainly to be seen under the present methods of teaching the insane in the hospitals. This fact adds perplexity to the mode of properly treating and disposing of insane persons when we encounter them in general practice. When in the course of physical disease mental alienation, either alone or jointly with another organ, supervenes, the absence of that clinical experience which comes from daily intercourse with the insane and daily observation of the disease, and which usually enables the general practicioner to make a prompt and satisfactory decision in diseases he is accustomed more often to encounter, is likely to occasion every kind of hesitation and indecision. This often results in too hasty and indiscriminate consignment of patients to State hospitals. How can a physician determine when a given case can be safely treated at home? To determine this properly the physician must ascertain whether the patient is homicidal, suicidal, violent or destructive in any way to the person or property of others, or to himself, beyond the likelihood of ordinary home vigilance to prevent or circumvent, and he must also determine whether the patient is in imminent danger of becoming so. Is the patient so indecent in his habits, conduct or language or ordinary proprieties of life as to

render it unfit for him to remain long at home? What antipathies has he formed? Is there danger to wife, husband or children, or is their presence detrimental to his mental welfare? Can he be treated safely by medicine alone? Was the insanity caused or is it aggravated by any circumstances surrounding him? What is the pecuniary condition of the family? And many other practical questions are to be solved.

(Dr. Hughes next pointed out at length the importance of this subject and the necessity of great wisdom in making discriminations between those proper to be sent to asylums and those not proper to be sent to asylums.)

Sufferers are sometimes sent to the asylum too early and sometimes too late. There is great need of a more general knowledge of psychiatry out of the asylums. In no class of affections is it so imperatively necessary to encourage the importance of early and prompt treatment, as in diseases of the brain affecting the mind. Among the cases which I have seen too soon or needlessly sent to the asylum are, first, puerperal insanity, during the first six weeks, in consequence of parturient shocks, exhaustive discharges and inadequate nutrition. (And let me say here, in parenthesis, that the low nutrition during the post-parturient period is largely responsible for cases of hopeless insanity.) The post-parturient woman's condition cries most loudly for nutrition for healing and repair. A nutritious, non-stimulating diet never harmed anyone, and I do not believe a single physician, when he is sick, practices what some of them preach on that subject. The second class is that of insanity of utero-gestation. This kind of insanity ought to be kept in abeyance until the critical period has passed, but requires careful watching and treatment. Then we have the insanity of lactation, which may usually be averted or arrested in its incipiency by weaning the child and taking it away from the mother and supplying other nutrition, securing private sleep every night, quiet during the day, by means of maltine preparations, and the best possible non-stimulating nutrition.

Then we have general paralysis of the insane. These patients, being never cured, and generally as happy in one place as in another, and seldom dangerous, may be treated as well at home or by traveling as elsewhere, providing they submit without annoy-

ance and danger to themselves or their property, or to others. In cases of acute psychic disturbance, secondary upon temporary hyperæmia, where the patient is conscious something is wrong, and will receive treatment, he may be treated at home. These cases, however, require great vigilance if they have any delusions or suspicions that may lead to homicide or suicide. Delusions and hallucinations based upon auditory diseases render these cases generally unsafe to be treated at home. The advice that is to keep these patients out of the asylum should be cautiously given, and based upon ample means of the friends to keep the patient under constant control. Then we have cases of delirium tremens, mania potu, which may soon be restored by judicious treatment familiar to every physician. Then I proceed to senile dementia, a case of harmless insanity in an old man, a lost mind, which comes from the degenerative changes familiar to us all. No medical man who justly appreciates his position would consign such a patient to the hospital if it be within the power of the family to take care of him. Then insanity connected with far advanced phthisis, unless violent and destructive, is a form not proper to be sent to an asylum. Mild cases of melancholia, where the patient can afford the expense of a medical attendant away from his immediate home, should not be sent to the asylum. These cases are, however, sometimes the most treacherous ones the physician encounters. It is out of them that the daily harvest of suicides is largely made up. These apparently harmless melancholics are the ones whom the physician interrogates with the greatest care. They are not safe either for the physicians or for the friends to be treated at home.

In the new era in medicine now inaugurated by the creation of chairs in psychological medicine in the medical colleges, and the disposition to diffusion of the literature of insanity through the medical profession generally, we shall all soon be quite as well qualified to intelligently advise concerning insanity as concerning other diseases. I have more than once seen patients, who, at home, had given the greatest trouble, when no one at home had the temerity to dare tell him he was insane, cured by telling him candidly that he had been adjudged by a jury to be insane, and was now in an institution provided by the State for the cure of

the insane, and that he, although in a different degree from the others around him, was no less insane than those about him.

The important problem in psychiatry, for forensic purposes is that of the differentiation.

[The paper closed with a discussion of the rights of the insane, in which the author maintained the general principle that "no man of unsound mind should be divested of his liberty unless he was dangerous to himself or to others."]—*Cincinnati Lancet and Clinic.*

Thomas Keith and Ovariotomy. By J. Marion Sims, M.D., LL.D., of New York. From the *American Journal of Obstetrics*, April, 1880.

Dr. Keith, of Edinburgh, did his first ovariotomy in September, 1862. Since then he has operated three hundred and three times. When he published his first series of fifty cases, his remarkable success was supposed to be accidental: and when he published his second series of fifty cases, making a hundred in all, his success so far outstripped that of all other operators that it became a wonder and admiration of surgeons all over the world. Since that time I have felt the greatest curiosity to see him operate. I wished to see in what his method differed from that of all other great ovariotomists. I wished to see if there was anything peculiar to himself to account for his great success. Accordingly, while in London, in the summer of 1874, I wrote to him to ask the privilege of witnessing some of his operations; but unfortunately he had none when I could have gone to Edinburgh. At this time most surgeons were using the clamp to secure the pedicle, but Thomas Keith was using the actual cautery, and it was supposed by many, even by himself, that the cautery was the principal cause of his success.

In 1876 and 1878 I again failed in my endeavor to witness operations by him. In 1879 I wrote to him that I had already written the chapter on ovariotomy for my forthcoming book, but would never consider it complete till I had seen him operate. He accordingly arranged for me to visit Edinburgh on the 1st of July,

1879, and I propose now to give an account of my observations made at that time.

Keith began the use of Lister's antiseptic method in March, 1877. Previously to that, his success had been from eighty-six to ninety per cent.; while that of other operators had gradually crept from sixty-six up to seventy and seventy-five per cent., and in one or two instances to eighty. But under the antiseptic method Keith has cured of his last hundred cases ninety-seven per cent.; seventy-three of these in succession without a single death.

If Keith cured from eighty-six to ninety per cent. before antisepsis, while others were curing seventy or even eighty; and if he now cures ninety-seven per cent. with it, while others cannot get over eighty-eight or ninety with it, then I thought there must be something else beside antisepsis to account for this difference. With this feeling I went to Edinburgh, and I think I have learned the secret of his great success—a secret that he is hardly aware of himself, because he has rarely seen the operation performed by any one else.

Keith is systematic in everything he does. He uses a Lister's spray apparatus with three jets, which works six hours if necessary, and is placed to the left of the patient's head, at a distance of eight or nine feet from the seat of operation. Most other surgeons place it at the feet and to the left. By Keith's plan the spray interferes less with the assistants, and is not expended on their arms and elbows. After operations his sponges are thoroughly washed, and then soaked for ten or twelve hours in a solution of washing soda, which cleanses them of blood and fibrin. Previously to operation, they are soaked in carbolized water (one to twenty). Just before operation they are wrung out of a hot carbolized solution, and put in a tight covered tin pail, and placed near the fire to be kept warm till they are used. His operating table is twenty-two inches wide and thirty-three inches high. In his early operations he used chloroform as an anæsthetic. But in later years he has used ether, and thinks it safer than chloroform, and that recoveries under ether would always be greater than under chloroform, other things being equal. He thinks the depressing effects of chloroform contributed directly to the death

of some of his early cases. He carries out Listerism very carefully with hands, instruments and sponges, all well carbolized. He operates usually about eleven o'clock in the day, and the patient is only allowed a little tea and toast at eight in the morning. Ordinarily, he does not put his patients under any long preparatory treatment for the operation. I saw him perform two ovariotomies, and each case came to his infirmary on the day preceding operation. Just before operation he had visited two bad cases of diphtheria. Spencer Wells requires all spectators at his operations at the Samaritan Hospital to sign a pledge saying they had not attended any contagious or infectious disease, or been engaged in dissections or post-mortem examinations for a week. Keith believes that antiseptics protect his patients against all danger of infection, and does not exact from spectators any such pledge. The gentleman who gives ether for him is engaged in a large obstetric practice, and Keith never inquires whether he has puerperal fever or septic cases in hand. For myself, however strongly I believe in the protective power of Listerism, I would certainly prefer to have assistants and spectators clear of all suspicion of contagion.

The idea has gone abroad that Keith is a slow operator, simply because his operations are prolonged beyond the time that would be taken by most surgeons to do like operations. But this is a great mistake, for I have never seen any one cut down to the peritoneal cavity more quickly, though always cautiously, remove a tumor with greater celerity, or close up the external wound more rapidly than Dr. Keith. The time that he dallies is when he comes to arrest hæmorrhage, by ligating bleeding points and clearing out the peritoneal cavity, and when the operation is finished, you involuntarily ask yourself, Could it possibly have been done better? And the answer comes spontaneously: "Impossible."

Keith never hurries; he does nothing for display; he leaves no bleeding points; never closes the wound till he is sure that all oozing has ceased; till he is sure that the peritoneum is perfectly dry. When he performed his first operation in 1862, he was surrounded by old men in the profession, who had the dread of wounding the peritoneum continually be-

fore their eyes. He was obliged to break up extensive adhesions, and as a consequence there was a free exudation of blood. Before closing the external wound, he began to sponge out the peritoneal cavity, and suddenly thrust a large sponge down in the pelvis and brought it up saturated with blood. Squeezing it dry, he was about to repeat this process, when they all united in begging him not to do it! From their standpoint of view, there would be more danger of irritating the delicate peritoneum with the sponge than by leaving the blood there to be absorbed. He yielded against his judgment to entreaties, and closed the wound, leaving a large quantity of blood in the peritoneal cavity. On the third day his patient was profoundly septicemic, and in imminent danger. He recognized the source of danger, and had the courage to open the lower angle of the wound by removing two or three sutures. There was an immediate discharge of fetid bloody serum in large quantities, and from that moment the patient began to improve and soon got well. This made a profound impression upon Keith's mind, and he determined from that time never again to leave extravasated blood in the peritoneal cavity if he could possibly remove it. It was not long before he had an opportunity of putting this principle to the test of experiment, for his second case was a very bad one with extensive adhesions. He had to tie many vessels and bleeding points. There was a large exudation of blood in the pelvic cavity, and he sponged it all out thoroughly, after which he closed up the external wound, and his patient recovered without a single bad symptom. From this time he adopted the principle of never closing the external wound till he had controlled all oozing of blood and made sure that the peritoneal cavity was dry and clean.

To the adoption of this principle at the very commencement of his work, more than to any other one thing, was certainly due the great success he achieved before he began the antiseptic method; and its conjunction with antiseptics is the cause of his unparalleled success under Listerism. The first case I saw him operate on was a very unfavorable one. The patient was old and feeble, the tumor multilocular, and universally adherent. With a few strokes of the knife, the peritoneum was reached. He used no scissors, no tenaculum, no dissecting forceps, no director. But

three or four hemostatic forceps were hanging to the edges of the incision after it was completed. The tumor was so intimately adherent to the abdominal parietes that it was difficult to define the line of union. I have never seen anything more unyielding; it was almost like cartilage; it could be separated only by dissecting with a knife; it was, therefore, necessary to open the tumor and tear out its multiple contents with the hand before the sac could be separated from the adjacent parts.

His trocar tube is a half inch in diameter, and he used Nélaton's forceps to clasp the sac-walls. The pedicle was long and narrow. He clasped it with locked forceps, and cut away the sac before he separated remaining adhesions. The omentum was firmly adherent to the tumor by the whole of its free border, and, as it was separated, it was necessary to tie it in segments, some as large as the finger, with twelve separate catgut ligatures. After the omentum was disposed of, he broke up the remaining adhesions to the parietes on each side and to the intestine and meso-colon, applying catgut ligatures whenever it was necessary to restrain hæmorrhage.

When he had ligated all bleeding points, he turned his attention to the pedicle. It was long and slender, and he would have transfixed it with a soft iron wire and tied on each side if I had not been present; but to gratify me he took it off with the actual cautery. He uses carbolized catgut ligatures to all bleeding points in the peritoneal cavity, except for the pedicle, and for this he has at different times used the clamp, the ligature, and the cautery; but he prefers the cautery. In this instance, he encircled the pedicle with a Baker-Brown cautery clamp, which he screwed up with a moderate degree of firmness. He had a half-dozen cautery irons ready heated in a little portable charcoal furnace. Taking one of the irons out of the furnace, he found it at a red-heat, which was too hot, and he dipped it in cold water till it was as dark as if it had not been heated at all. He then placed its hatchet edge against the clamped pedicle, and by gentle motion back and forth he burned it off close to the upper surface. Its burning made a creaking, whistling noise. He then took another hot iron and dipped it in cold water till it was of a brown heat, and polished the burnt edge of the pedicle till it was quite

smooth and even with the surface of the clamp. He then cooled off the clamp with a sponge in cold water. Afterward he caught the pedicle with Koeberle's hemostatic forceps underneath the clamp, then unscrewed the clamp and separated its blades gently and very slowly. He watched the pedicle for a moment to see if there was any bleeding, and, as there was none, he removed the clamp entirely. The portion of the pedicle which had been compressed by the clamp had been squeezed so forcibly for ten or fifteen minutes that it looked transparent, like a bit of clarified horn. The part embraced by the clamp was about an inch and a half long, one-fourth of an inch wide, and about one-sixteenth of an inch thick. The burnt edge was browned, but had no thickened, charred substance sticking to it as I expected. I suggested to Keith that the forcible compression of the clamp might have been a sufficient hemostatic in a case like this, without the cautery. He said he had tried it, and it could not be depended upon, and that the cautery was essential to amalgamate the edges of the clamped pedicle. The pedicle was temporarily held in the lower angle of the wound by his hemostatic forceps, one on each side, just below the border that had been compressed by the clamp, while he proceeded (as the German surgeons say) to "make the toilet of the peritoneal cavity." He cleared out the peritoneal cavity with sponges, removing several ounces of extravasated blood and serum. Then he began to hunt bleeding points on surfaces from which adhesions had been broken up. He tied one point and then another, and another which had given rise to the smallest possible transudation of blood. Then the whole pelvic cavity was again sponged out, and again he searched for oozing vessels until he tied perhaps twenty points. He continued the search and ligation of seemingly unimportant little oozing points long after any other surgeon would have hastily closed up the external wound, leaving something to chance. Not so with Keith; he explores and re-explores, and you wonder why he does not at once finish the operation, when suddenly he seizes a point moistened with fresh blood, and throws a ligature around it. And so he goes on, till he feels sure that there is not a point left unsecured from which bleeding, after the establishment of reaction, could possibly take place.

At last he is ready to close the external wound. He places, according to the plan of Spencer Wells, a broad, flat sponge, perhaps six inches long by three or four wide, within the peritoneal cavity overlying the exposed intestines. The object of this is to protect the intestines against cold during the time of passing the sutures, and also to protect them from any blood that may drop into the peritoneal cavity from the needle punctures. He then passes two sutures at the upper angle of the wound, and two at the lower, according to the method of Spencer Wells; each suture having a needle at either side, and each needle passed from within the peritoneal membrane, and out through the skin. The intervening sutures were passed rapidly with an awl-shaped needle, six inches long, with an eye at the point, according to the method of Peaslee. The sutures were passed through the entire thickness of the abdominal walls, not more than from a quarter to the third of an inch from the edge of the incision, and embracing the peritoneal membrane. When the sutures were all introduced, the upper half of them were drawn up in their middle portions into the upper angle of the incision, and the lower angle, where they were held by assistants, thus making clear the opening into the peritoneal cavity by which he removed the sponge that had been placed there for protection, before the introduction of the sutures. When the sponge is removed, if it is bloody he immediately begins the search for bleeding points; but if it is dry the wound is ready for closure. But before doing this he hastily thrusts a small sponge, held by a locked forceps, to the bottom of the pelvic cavity, to determine if it is still dry. If all is well, the sutures are all drawn tight, and each tied separately, while an assistant presses the relaxed abdominal walls together with his hands, in a line under and parallel with the course of the wound. The sutures are then cut off, each within an inch or two of the knot. In this case, seven deep carbolized silk sutures were passed, with five intermediate surface sutures of horse's hair. The wound was dressed with thymol gauze, covered with cotton-wool and a flannel band. In cases like this, he formerly used a glass drainage-tube before the days of antisepticism, but now he does it only occasionally. The operation was begun at

twenty-five minutes after eleven, and finished at twenty-eight minutes after twelve—one hour and three minutes.

It is often the habit with novices in ovariotomy to saturate their patients with morphine or some preparation of opium for the first few days after operation; but Keith and Spencer Wells long ago learned that this practice was not only useless, but injurious, and their custom is to order twenty drops of laudanum, or its equivalent, to be given by the rectum after the patient recovers from the anæsthetic if there be pain enough to require it, to be repeated if necessary. For the first forty-eight hours the patient takes no nourishment. He gives only brandy and ice as they may be necessary. At the end of this time he allows light nourishment, such as beef-tea and milk, and in a day or two the bowels may be moved by enema, unless there is something to contra-indicate its use. If all goes on well, a more nutritious diet may now be allowed. Keith attaches much importance to a free discharge of flatus from the rectum, and always watches this symptom with great anxiety.

I saw Keith perform his second operation on the 4th of July, 1879. (Here follow copious notes of each step of Dr. Keith's operation, made by Dr. Sims on the spot, which we need not here insert.)

The tumor weighed fifty-six pounds, thirty-four fluid, twenty-two solid. The india rubber sheeting inclosing the sponges at the mouth of the drainage-tube is unfolded from time to time: the sponges removed and squeezed over a graduated measure, and the quantity of fluid noted. This must be done more or less frequently, according to the amount of bloody serum discharged. At first it may be necessary to do this every four or five hours. As the quantity of fluid discharged decreases, this may be done at longer intervals. Keith never finds it necessary to make intra-peritoneal injections, as is so frequently practiced here; it seems that the fluid finds it way out through the drainage tube as rapidly as it is extravasated.

We are indebted to Koeberle for drainage by abdominal incision. He first used it in 1867. But he has now, I believe, given it up almost entirely. Keith learned its use from Koeberle in 1868. He used it more frequently before he began antiseptics

than he does now; but he says there are exceptional cases in which he thinks drainage is absolutely essential to the safety of the patient. Spencer Wells and Thornton, since they adopted antiseptics, do not resort to the drainage-tube; they exclude it on the principle that Listerism renders all intra-peritoneal effusions, whether blood or serum, aseptic. Being aseptic, they can be absorbed in immense quantities, without danger to the life of the patient. But suppose we have not succeeded in rendering the peritoneal effusions perfectly aseptic, then we know that, in very small quantities, their absorption may be attended with great danger. How shall we then determine whether it will be necessary to use the drainage-tube or not? Are there any indications to guide our judgment in this matter?

In the two cases upon which I saw Keith operate, each had extensive adhesions to be broken up. In the first, he did not use the drainage-tube; in the second, he did. After leaving Edinburgh, I wrote to ask him the explanation of this difference of practice in two cases that were so much alike, and to ask if he could lay down a principle of action to guide us under all circumstances. In his reply, dated Edinburgh, July 29, 1879, he says: "I can hardly give you any rule about drainage, except that I do it where I expect much serous oozing, or where I am not sure that all bleeding has been stopped; and especially if, with one or other of these circumstances, the general condition is bad, or the patient very feeble."

This is a subject I have thought a great deal about, and I have lately adopted a plan to settle the question of drainage or no drainage, which I have twice carried into effect since I saw Keith operate.

Bloody serum is more dangerous in the peritoneal cavity than pure blood or pure serum, and requires drainage. If there are no adhesions to break up, the drainage tube is unnecessary. If there is ascites alone, it is unnecessary; but if we have ascites, complicating adhesions, then we may use the drainage-tube, and we are sure to have bloody serum evacuated by it. If we have adhesions alone, without ascites, and if we feel sure that every bleeding point has been secured, then we may, with the utmost confidence, close the external wound without the drainage-tube.

But if we are in doubt on this point, I think the following plan will remove the doubt. As before stated, Spencer Wells and Keith, and all their followers, place a large, flat sponge between the anterior parietes and the intestines during the time they take to introduce the sutures. In Keith's last operation, he passed sixteen sutures in six minutes. Any one else would have taken ten minutes to do the same work. During these from six to ten minutes, if the sponge that has been laid within the peritoneal cavity is found, on removal, to be perfectly dry, then we may be sure that there is no bleeding to be apprehended from the parts with which it has lain in contact. But if, as before explained, it contains two or three drachms of blood, then there are oozing vessels to be sought and tied.

To this I would add another diagnostic measure. Before introducing the large flat sponge over the surface of the intestines, pass a sponge, the size of a small orange, firmly held with locked forceps, down to the bottom of the Douglas's pouch, the handle of the forceps projecting from the lower angle of the incision. Then place the large sponge over the surface of the intestines, and proceed to pass the sutures, leaving the two sponges *in sitû*. When the sutures are all introduced, draw half to each angle of the wound and remove the superficial sponge, as before described, and then squeeze it, and if it is dry, all is well in the region that it had just occupied. Then remove the small sponge, with the locked forceps, from the pelvic cavity, squeeze it, and if it, too, is found to be perfectly dry, then we may proceed to close the external wound without the drainage-tube. But, on the contrary, if the large superficial sponge contains blood, or bloody serum, then we must search out the source of oozing, and arrest it; and if we fail, we should resort to the drainage-tube. But, granting that the upper sponge is found to be dry, and the one from the pelvic cavity contains free blood, or bloody serum, then its source must be searched and secured; and if we fail, then we should resort to drainage, for I am convinced that Keith's plan of drying out the peritoneal cavity completely is the only one to give us perfect immunity against sepsis.

I have adopted this plan recently in two cases—that is, of placing a sponge in the pelvic cavity simultaneously with that on

the surface of the intestines. In the first case, there was ascites, complicating most extensive adhesions between the tumor, parietes, omentum, and intestines. The upper sponge was dry; the one in the pelvic cavity contained two or three drachms, not of pure serum, but of bloody serum; and here I used the drainage-tube, and felt afterward that I had done the best thing possible for my patient; for during the first twenty-four hours after operation, there were discharged sixteen ounces of bloody serum, half of it being blood, and all of it full of bacteria. On the next day there was nearly as much more. It gradually decreased till the fifth day, when it ceased entirely, and the drainage-tube was removed. My patient recovered rapidly, the pulse never going over ninety, nor the temperature over one hundred. In the second case, there was no ascites, but there were parietal adhesions; and the adhesions between the tumor and the omentum, and between the tumor and colon and mesocolon, were very firm and very extensive, and the dissection of the tumor from the intestine was exceedingly tedious and difficult. In this case, I was in doubt whether to use the drainage-tube or not; but using the sponges as before described, the one superficially and the other deep in the pelvis, and then removing them after the sutures had all been introduced, I found that the first one was perfectly dry, while the other contained a small quantity of pure blood. As I could not find the source of bleeding, I introduced a drainage-tube. From two to three ounces of pure arterial blood passed out through this tube every day for a whole week. It did not contain bacteria: still I believe it was safer that this pure blood (twelve or fourteen ounces in all), should pass from the peritoneal cavity, than remain there, become coagulated, and take its chances of absorption. Such a case is rare, and the bleeding occurred most probably from some little arteriole on the surface of the intestine, which had been stripped of its peritoneal covering for a distance of five or six inches by two. The practice was justified by the result, as the patient recovered perfectly.

Let me hope that others may find the plan here suggested as useful in determining this most difficult question of drainage or no drainage, as it has been to me in the two cases already described. The lesson that I had gathered from witnessing

Keith's operation is—never to close the external wound till we have secured every bleeding vessel, every oozing point, and made sure that the peritoneum is perfectly clean and dry. It was long thought that the treatment of the pedicle had much to do with the success of the operation. But I think now that it matters very little what we do with the pedicle, whether we use the clamp, the ligature, or the cautery, provided we take every care against the exudation of blood or bloody serum into the peritoneal cavity after the closure of the external wound.

Spencer Wells was the great apostle of the clamp; he did more to popularize its use in the profession than any other man; he honestly believed that the extraperitoneal method of securing the pedicle was the best and safest when practicable. As late as June and July, 1878, in his lectures before the "Royal College of Surgeons," he brought forward statistics from his immense experience to prove that the best treatment of the pedicle was by the clamp, and the worst by the ligature; as the mortality attending the latter far exceeded that of the former. But Listerism has killed the clamp, and even Spencer Wells uses it no longer; or so rarely as to make its use quite exceptional. He uses the intraperitoneal ligature, cutting it off close, and leaving the pedicle within the peritoneal cavity. His pupils, Bantock and Thornton, who succeeded him in "The Samaritan Hospital," in December, 1877, adopted the antiseptic method then, and with it the intraperitoneal ligature, never having used a clamp since that time. Thus we see the two greatest ovariotomists living, Spencer Wells (with his lieutenants, Bantock and Thornton) and Thomas Keith, both treating the pedicle by the intraperitoneal method—the one by the ligature and the other by the cautery, which settles forever the question of the clamp.—*College and Clinical Record.*

Treatment of Delirium Tremens and of Acute Delirium.

Dr. Rousseau treats ordinary cases of delirium tremens with large and repeated doses of bromide of potassium, which he thinks succeeds better than opium, especially when given in an early stage (*Annales Médicopsychologiques*). Only once has he met

with the grave form assuming the febrile and delirious character. Remembering the treatment of Dr. Féréol in a similar case, he did not hesitate to adopt his method. After all the usual remedies had been exhausted without benefit, the physician in charge recommended the removal of the patient to a lunatic asylum. On admission he was extremely violent, flushed, eyes glistening, temperature elevated, pulse quick, full, and regular. He was incoherent, delivered interminable monologues, his attention could not be secured. He maintained that he had killed his wife and father, and expected every moment to be arrested by the police. He had hallucinations, and heard voices which made the most singular proposals to him. He thought himself in a forest, and took the persons around him for robbers. He committed a thousand extravagances, executed feats of strength, could not bear his clothes, sought a river to drown himself. From time to time he fell into a stupor with carphology, tried to seize small objects on his clothes, then suddenly awoke. There was a general tremor, speech was embarrassed, the tongue furred, the pupils contracted, and but little sensitive to light, the left a little more dilated than the right, the skin was anæsthetic, the head not apparently painful.

Ten grammes of potassium bromide were administered on admission, but the agitation and delirium continued during the day and night. The bromide was continued, and on the following day he kept for seven hours in a *cool* bath (*bain frais*), cold compresses being applied to his forehead from time to time. Whilst in the bath he became calm, with a marked diminution of the delirium and trembling. He passed an excellent night and made a rapid recovery, but continued as a precautionary measure to use the bromide, taking altogether fifty grammes in five days.

The same treatment was also adopted with success in a non-alcoholic case of acute delirium with extreme excitement—"one of those congestive manias which form the substratum of general paralysis." There was slight embarrassment of speech, pupils unequally dilated, pulse strong and quick, skin burning, the face red and congested. He cried, danced, committed all sorts of extravagances, refused to lie down, stripped himself naked, clasped the coverlet between his arms, saying he was going to be con-

fined of a reptile. He was completely delirious. Ten grammes of bromide of potassium produced no diminution of excitement during the night after admission. On the following day a cool bath was administered for seven hours with repeated cold irrigations of the head, the temperature of which was excessive. The agitation subsided, and intelligence was partially restored during the bath, after which tranquility was uninterrupted. Mental confusion and delusions still remaining, he was purged for five days by calomel and aloes, at the end of which time he was perfectly sane, with speech and pupils normal. Seen from time to time since, he continues quite well, now nine months since the attack.—*Medical Press and Circular.*

The Therapeutic Use of Phosphate of Bismuth.

According to the *Union Pharmaceutique*, Dr. Tédenat prefers the phosphate of bismuth to the sub-nitrate. The anti-diarrhœic action of the phosphate is identical with that of the sub-nitrate. Thanks to its greater insolubility, however, the phosphate acts in slightly less doses, especially in affections of the stomach. In spite of the acidity of the fluids of the stomach, it is completely absorbed.

The dose varies according to the case; generally it is from 1 to 2 grammes. The mode of administration is the same as that of the sub-nitrate. In children it suffices to deposit the desired quantity on the tongue, and give the child the breast or the bottle. The salt is easily drawn into the stomach, and considerable doses may be given in this manner. In adults the remedy is held in suspension in some liquid. In many cases, lozenges of 1 to 2 grammes in weight are very useful; they disintegrate in the mouth, and the phosphate is gradually taken into the stomach.—*Medical Press and Circular.*

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, March 7 and 21.
West Chicago Medical Society—Mondays, March 14 and 28.
Biological Society—Wednesday, March 2.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

[Tenth Census of the United States.]

CENSUS BULLETIN No. 65.

DEPARTMENT OF THE INTERIOR,
CENSUS OFFICE, WASHINGTON, D. C., January 15, 1881.

The following statement exhibits the results of the first count of population according to the schedules returned to the Census Office by the enumerators of the several districts concerned.

The statement of the population in relation to any township, town, city, or county is still subject to possible corrections by reason of the discovery of omissions or duplications of names in lists of inhabitants returned.

ILLINOIS—(IN PART.)

COUNTIES.	Total.	Male.	Female.	Native.	Foreign.	White.	Colored.*
Alexander	14,809	7,843	6,966	13,552	1,257	10,241	4,568
Bureau	33,189	17,100	16,089	27,000	6,189	33,033	156
Champaign	40,870	21,404	19,466	36,219	4,651	40,401	469
Clark	21,900	11,282	10,618	21,171	729	21,849	51
Coles	27,055	13,883	13,172	25,913	1,142	26,779	276
Cumberland	13,762	7,127	6,635	13,481	281	13,760	2
DeKalb	26,774	13,734	12,984	21,501	5,273	26,680	94
DeWitt	17,014	8,907	8,107	16,068	946	16,901	113
Douglas	15,857	8,268	7,589	15,209	648	15,747	110
Edgar	25,504	13,234	12,270	24,712	792	25,322	182
Edwards	8,600	4,470	4,130	7,761	839	8,517	83
Ford	15,105	8,131	6,974	11,769	3,336	14,995	110
Franklin	16,129	8,268	7,861	15,985	144	16,105	24
Gallatin	12,862	6,676	6,186	12,488	374	12,187	675
Hamilton	16,712	8,519	8,193	16,449	263	16,669	43
Hancock	35,354	18,048	17,306	31,905	3,449	35,196	158

Hardin	6,024	3,129	2,895	5,884	140	5,860	164
Henderson	10,755	5,632	5,123	9,647	1,108	10,743	12
Henry	36,610	18,907	17,703	26,949	9,661	36,478	132
Iroquois	35,457	18,780	16,677	29,006	6,451	35,209	248
Jackson	22,508	11,736	10,772	20,924	1,584	20,979	1,529
Jasper	14,515	7,515	7,000	13,839	676	14,467	48
Jefferson	20,686	10,529	10,157	20,065	621	20,590	96
Jo Daviess	27,535	13,920	13,615	21,040	6,495	27,472	63
Johnson	13,079	6,676	6,403	12,961	118	12,946	133
Kankakee	25,050	13,032	12,018	18,797	6,253	24,973	77
Knox	38,360	19,437	18,923	31,734	6,626	37,382	978
LaSalle	70,420	36,164	34,256	52,582	17,838	70,331	89
Lawrence	13,663	7,057	6,606	13,383	280	13,345	318
Lee	27,494	14,217	13,277	22,347	5,147	27,430	64
Livingston	38,453	20,401	18,052	31,225	7,228	38,153	300
McDonough	27,985	14,249	13,736	26,412	1,573	27,840	145
McHenry	24,914	12,798	12,116	20,067	4,847	24,863	41
McLean	60,115	30,971	29,144	52,404	7,711	59,432	683
Macon	30,672	15,953	14,719	28,212	2,460	30,315	357
Madison	50,141	26,147	23,994	38,518	11,623	47,442	2,699
Massac	10,443	5,320	5,123	9,900	543	8,740	1,703
Mercer	19,505	10,127	9,378	16,964	2,541	19,468	37
Monroe	13,682	7,255	6,427	10,497	3,185	13,626	56
Moultrie	13,705	7,102	6,603	13,269	436	13,689	16
Peoria	55,427	28,225	27,202	44,527	10,900	54,904	523
Perry	16,008	8,242	7,766	13,985	2,023	15,230	778
Piatt	15,583	8,280	7,303	14,717	866	15,550	33
Pope	13,256	6,707	6,549	12,866	390	12,652	604
Pulaski	9,507	4,860	4,647	9,146	361	6,238	3,269
Randolph	25,691	13,364	12,327	21,886	3,805	24,393	1,298
Rock Island	38,315	19,755	18,560	27,914	10,401	37,774	541
Saline	15,940	8,093	7,847	15,809	131	15,356	584
Shelby	30,282	15,635	14,647	28,529	1,753	30,205	77
Stark	11,209	5,855	5,354	10,010	1,199	11,205	4
Tazewell	29,679	15,343	14,336	24,674	5,005	29,587	92

COUNTIES.	Total.	Male.	Female.	Native.	Foreign.	White.	Colored*
Union	18,102	9,158	8,944	17,428	674	17,833	269
Vermillion	41,601	21,587	20,014	38,605	2,996	41,400	201
Wabash	9,945	5,098	4,847	9,471	474	9,888	57
Washington	21,117	10,922	10,195	16,852	4,265	20,905	212
Wayne	21,297	10,791	10,506	20,979	318	21,283	14
White	23,089	12,000	11,089	22,386	703	22,556	533
Whiteside	30,888	15,887	15,001	26,048	4,840	30,810	78
Will	53,431	28,447	24,984	37,256	16,175	52,727	704
Williamson	19,326	9,902	9,424	19,013	313	19,073	253
Woodford	21,630	11,154	10,476	17,522	4,108	21,547	83

*Including, in Alexander Co., 1 Indian; in Bureau Co., 1 Indian; in Champaign Co., 4 Indians; in Coles Co., 1 Chinese; in Edgar Co., 1 Chinese; in Iroquois Co., 1 Indian; in Jackson Co., 1 Indian; in Jo Daviess Co., 1 Japanese and 6 Indians and Half-Breeds; in Kankakee Co., 2 Chinese; in Knox Co., 2 Chinese and 2 Indians; in LaSalle Co., 1 Chinese; in McDonough Co., 1 Indian; in McLean Co., 4 Chinese; in Macon Co., 3 Chinese and 2 Indians; in Madison Co., 1 Chinese and 2 Indians; in Perry Co., 10 Indians; in Peoria Co., 12 Chinese; in Pope Co., 5 Chinese and 29 Indians; in Rock Island Co., 2 Chinese and 2 Indians; in Tazewell Co., 1 Chinese and 2 Indians; in Vermillion Co., 2 Chinese.

THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLII.—APRIL, 1881.—No. 4.

Original Communications.

ARTICLE I.

DURATION OF NORMAL HUMAN PREGNANCY. By P. O'CONNELL, M.D., Sioux City, Iowa.

From time immemorial, writers on obstetrics and on forensic medicine in particular, have endeavored to determine the duration of utero-gestation in the human female. I should be extremely glad to settle this *questio vexata* in a manner as satisfactory and as convincing to others as I have to myself. But I do not flatter myself with any such notion of success. All I can hope to do is to add a few facts, from personal observation and reflection, towards settling this very important matter, to which my attention was directed, in a special manner, several years ago, when a very intelligent young lady engaged me to attend her in her first labor which she predicted to the very day. This had the effect of inducing me to devote particular care and attention to the investigation of the duration of normal gestation in women coming under my care, with what result I leave others to judge from the cases collected by me, to the number of four-

teen, in each of which the fruitful act of intercourse is pretty accurately known. And while endeavoring to show what is the duration of normal human pregnancy, the cases I give will help to settle other questions intimately connected with the matter under discussion.

The following questions are those to which I would draw particular attention, and endeavor to answer; for, it seems to me, that if we could solve them, we could readily determine the duration of utero-gestation:

1. Where does fecundation take place?
2. What time do the spermatozoa take to reach the ovum?
3. What time does the ovum take to descend from the ovary to the uterus?

These three questions are most important, yet exceedingly difficult to answer. The following, while interesting, are of much less consequence:

4. What relation does conception bear to menstruation?
5. Does labor set in exactly at a time to correspond with a tenth recurrence of menstruation if conception had not occurred?
6. Is sex dependent on the number of spermatozoa finding access to the ovum?
7. Is sex dependent on the time of conception relative to menstruation?
8. Is the first child carried to full term?

1. Where does fecundation take place?

A few physiologists have asserted that the ovum loses the power of being fecundated when it reaches the lower end of the fallopian tube; while a few others affirm that it is arrested and developed at the spot where the spermatozoa meet it. Both theories lack proof. Fecundation may take place while the ovum is still in the ovary; or during its transit along the oviduct at any point thereof; or when in the uterus. The two former propositions are proved by abdominal, true ovarian, and by tubal gestation. Fecundation is liable to occur at any spot between the ovary and the *os uteri internum*. But the precise place where it happens, in any given case of uterine gestation, cannot, of course, be determined.

2. What time do the spermatozoa take to reach the ovum?

The answer to this question depends on the place where the sperm cells and germ cell meet; and that, in turn, depends partly on the time of escape of the ovum from the ovary; and partly on the rate of motion upwards of the spermatozoa, and on the rate of motion downwards of the ovum. Bischoff demonstrated the presence of spermatozoa on the ovaries of animals killed a week after the congress of the sexes. Dr. Austin Flint, junior, saw them, *in motion*, on the surface of the ovary eight days after intercourse. Dr. S. R. Percy found them alive in mucus issuing from the os uteri of a woman eight and a half days after coitus. These facts prove that spermatozoids can and do live several days in the female generative tract. Bischoff's and Flint's discoveries demonstrate the distance to which spermatozoa can penetrate, but do not, unfortunately, determine the time they occupied in their upward course to the ovary. And Dr. Percy's discovery shows that although they may enter the uterine canal, they do not necessarily find their way to the ovarium, but are liable to be swept back by excess of secretion (catarrh) from the uterine canal. It is my opinion that spermatozoa may, under favorable conditions, reach the lower end of the uterine cavity: that is, may pass the *os uteri internum* in a few hours. I am also of opinion that they may not reach the ovary for ten or fifteen days after coitus.

3. What time does the ovum occupy in its descent from the ovary to the uterus?

This question is not more definitely settled than either of the two preceding. Physiologists appear to think that eight or ten days are *usually* occupied by the transit of an ovum from the ovary to the uterine cavity. If, as I suppose, the peristaltic motion of the fallopian tube be much more brisk about and during the time of menstruation than during the intermenstrual period, then an ovum may be propelled from the ovary to the uterus in two or three days in the former case; whereas, in the latter, it may require fifteen or sixteen days, as would appear to have happened in the sixth case of my table.

4. What relation does conception bear to menstruation?

They are correlated. I believe menstruation is dependent on ovulation. The maturation and extrusion of an ovum constitute

the stimulus to the menstrual flow. Ovulation and menstruation are simply cause and effect. When are ova discharged? They are discharged before and after, but chiefly during, menstruation. Usually the rupture of the Graafian follicle occurs during or about the end of the first day of menstruation. An ovum discharged before the onset of the menses, is generally swept away in the menstrual flood; when discharged during the flow, it will not reach the uterine cavity until the menses have ceased. This explains the greater frequency of conception following coitus held immediately after menstruation. The ovum fecundated is that which acts as the exciting cause of the menstruation imminent or just ceased. My cases show, also, that conception may take place immediately before as well as immediately after menstruation. When conception occurs just before the outset of the menses, the flow is either entirely arrested or so modified in color and quantity as to attract the woman's attention.

But conception may, and actually does, occur at any time between the menstrual epochs, as is proved by the American women, most of whom practice, I regret to say, the trick of non-submission to coitus for about ten days after menstruation, with the sole and criminal intention of avoiding conception and family, if possible; yet they are not always successful, as many discover to their surprise and chagrin. It is also proved by the Jewish women who are very prolific, yet are required by the Mosaic law to abstain (being considered unclean) from all intercourse, most especially from coitus, with the entire household for seven to fourteen days after menstruation; * * * "she shall be unclean two weeks according to the custom of her monthly courses."* "The woman, who, at the return of the month, hath her issue of blood, shall be separated seven days."† Case 6 of my table also illustrates this point, as well as shows how long an ovum may take to descend from the ovary to the uterus. While conception is not confined to the periods of menstruation, it is more likely to occur within a few days after the cessation of the menstrual flow, than at any other time. It is quite certain that there is a greater aptitude for conception, and that females expe-

* Levit. xii, 5.
† Levit. xv, 19.

rience stronger sexual desire, immediately before and after menstruation than at any other time; a fact well known to the ancient physicians, who frequently recommended, and with success, coitus immediately after menstruation as a cure for sterility in women. Raciborski affirms that the exceptions to conception taking place immediately before, during, and immediately after menstruation, are not more than six or seven per cent. "But it is certain that conception is much more likely to take place soon after they" (the menses) "have ceased to flow, or even just before their access, than in the intervening period; so that, in most instances, it would be most correct to expect labor at forty weeks and a few days after the last recurrence of the menses."*

5. Does labor set in exactly at a time to correspond to a tenth recurrence of the menses if conception had not occurred?

"The idea has of late years been put forward and sustained by direct observation, that in women whose menstrual function is regular, gestation will terminate at the tenth menstrual period after that upon which conception has ensued. Then, as the ordinary menstrual interval is about twenty-eight days, the ordinary duration of pregnancy would be a few days less than 280 days, varying according to the time occupied by the monthly flow."† This theory is negatived by cases 6, 7, 9, 11 and 14 of my table.

6. Is sex dependent on the number of spermatozoa finding access to the ovum?

Some writers assert that sex is determined by the number of spermatozoa; that when conception takes place just before menstruation, few spermatozoons enter the ovum, and a female child is born; that after menstruation, many enter and a male child is developed. I fail to see why only a few sperm cells should enter the germ cell before menstruation and many after that act. Where or what is the impediment to prevent as many entering the ovum before menstruation as after it? Cases 3, 4, and 7 of my table do not bear out this theory. Besides, twins at either time, of different sex, flatly contradict it.

The number of spermatozoids finding access to an ovum does

* Carpenter's Physiology, New American, from Eighth English Edition, page 910, *Note* 2.
† Wharton and Stillé Medical Jurisprudence, Second Edition, page 312.

not appear to play any part in determining sex. Mr. Newport ascertained that a too copious application of spermatozoa to an ovum is absolutely unfavorable to their action—will not fecundate at all. Others assert, perhaps with truth and reason, that a single sperm cell is sufficient for the purpose of fecundation. I believe very few are necessary. It is well-known that the introduction of a small quantity of seminal fluid just within the *sphincter vaginæ*, or, for the matter of that, on the vulva is all that is necessary, sometimes, for the purpose of impregnation; as some women have found to their cost. This very point was demonstrated in 1876, when Prof. Braun published three cases of pregnancy with intact hymen. In the first case, the aperture in the hymen barely admitted the uterine sound; in the third the opening in the hymen was a short and narrow slit. Prof. Braun ascertained that penetration did not take place in the first and third; that the semen was deposited on the hymen. Consequently the number of spermatozoa which could find access to the ovum must have been very limited indeed.

7. Is sex dependent on time of conception relative to menstruation?

Certainly not, as twins of different sex conceived before or after menstruation prove, and as my cases also show.

8. Is the first child carried to full term?

Some suppose not; others think the sex influences the duration of gestation a little; as for example, a female child is born, or apt to be born, a few days before full term; and *vice versa* with a male child. This idea does not hold good in either case. No matter what the sex, the first child is carried to full term, as my cases prove.

Finally, I would ask, What is the duration of normal utero-gestation in the human female? Is it nine calendar months? Perhaps so; but nine calendar months may mean 273, 274, 275, or 276 days. Is it ten lunar months, forty weeks, or 280 days? I do not believe so. Between ten lunar months or forty weeks, and nine calendar months there may be a difference of just one week.

It could serve no purpose beyond occupying valuable space, to heap up tables or collections of cases, as is too often done, giving

the minimum, mean and maximum duration of gestation. From all such collections or tables it will simply be seen that the majority of women are delivered between the two hundred and seventy-third and two hundred and eightieth day; that the mean duration of pregnancy is 275 or 276 days. Between the minimum and maximum duration, however, there may be the very great difference of forty days! "In a practical point of view, we may consider that the average duration of pregnancy is * * * about 274 or 275 days from the time of coitus, when this can be ascertained."*

The opinion entertained and long pondered over by me is, that the duration of normal utero-gestation in the human female is 275 days from the time the fecundated ovum takes up its place in the uterus to the outset of labor. Besides the cases coming under my personal observation, here given in the table, and strongly sustaining my opinion, I have been led to this conclusion on what, to many, may, perhaps does, seem inadequate data, but which to me appear absolutely irresistible and convincing; I mean the duration of the intra-uterine life of Christ, which was exactly 275 days or nine calendar months. We have His own words in testimony that He did not come to destroy nor to subvert the law, but to fulfill it to the very letter, which He did in every manner. I have often wondered, but am unable to explain, why it is I had never seen this fact mentioned in the chapters of works on obstetrics and forensic medicine where the attempt is made to solve the duration of pregnancy.

It may be fairly asked, and, no doubt, it will quickly occur to the reader to ask: How do you, then, account for such apparently great disparity in the duration of gestation in cases where only a single act of coitus took place at a known time? From the views. viz., that, first, spermatozoa may reach the uterine cavity within a few hours from coitus held immediately before or after menstruation, and fecundate an ovum which may have descended thereto during the menstrual epoch now imminent or just ended, as would seem to have happened in seven or eight of my cases; and, second, that spermatozoa must ascend nearly or

* Dr. Tyler Smith, *Lancet*, March, 1856, page 333.

even to the ovary, there fecundate an ovum which, in turn, must descend to the uterus: the ascent of the sperm cells and the descent of the impregnated ovum occupying jointly from ten to twenty days or more. These views will, I think, explain the seeming prolongation in the duration of certain cases of pregnancy resulting from a single coitus at a known time. Apparently protracted gestation is certainly more easily and more reasonably explained in this manner than in any other way. In all the cases of supposed protracted gestation, no evidence whatever, beyond a mere assumption, is adduced to prove that conception really took place at the time of the known coitus. Why is it assumed that, in such cases, conception followed immediately on coitus? Might it not so happen that the spermatozoa should travel all the way up to the ovary before meeting an ovum? And might it not also happen that when they did reach the ovary no ovum was matured for perhaps a few days after and was consequently unfit for fecundation? And then the fecundated ovum must come down to the uterine cavity. Take the sixth case of my table: The woman was absent from her husband for fifteen days after the cessation of her last courses. Yet the ovum matured at the last menstrual epoch did not reach the uterine cavity until the 27th of September, the occasion of the fruitful coitus. Were she, however, with her husband at the time of the cessation of her last menses, the duration of pregnancy would be set down at 288 days, instead of 272 days actual time. Besides this case, there is ample evidence to prove that fecundation may not take place for many days after a single known coitus. The whole trouble and error, in my estimation, lies in the absurd assumption, that because a woman conceives after a certain act of intercourse, she does so almost immediately. This is unreasonable.

The duration of pregnancy should be calculated, in my estimation, from the time the impregnated ovum takes up its place in the uterine cavity to the outset of labor. That period I believe to be, as I already said, 275 *days when perfectly normal.* Any case of labor before 275 days I would consider abnormal—premature. And we all know how very easy it it is, sometimes—what seemingly trivial causes will now and then determine the outset

TABLE OF THE DURATION OF HUMAN UTERO-GESTATION.

Case.	Menstruation began.	Menstruation ceased.	Labor began.	Duration of Pregnancy, in days, from end of last menses, or from coitus.	Number and Sex of Child	From beginning of last menses, to Labor, in Lunar months.	From end of last menses, to Labor, in Calendar months.	Remarks.
1	April 3, 1875.	April 6, 1875.	On the evening of Jan. 6, 1876.	274	1, male.	10 less 2 days.	9 less 1 day.	Married April 7, 1875, and first coitus took place that night. Believed she conceived from first coitus.
2	Oct. 7, 1875.	Oct. 10, 1875.	July 13, 1876.	276	1, male.	10 exactly.	9 plus 3 days.	
3	Oct. 17, 1875.	Oct. 20, 1875.	July 23, 1876.	276	3, female.	10 exactly.	9 plus 3 days.	
4	Nov. 19, 1877.	Nov. 22, 1877.	Aug. 25, 1878.	275	1, female.	10 less 1 day.	9 plus 3 days	
5	Feb. 7, 1878.	Feb. 10, 1878.	At 8 o'clock, a. m., Nov. 15, 1878.	277	1, male.	10 plus 1 day.	9 plus 4 days.	
6	Sept. 9, 1878.	Sept. 12, 1878.	June 26, 1879.	272	2, male.	10 plus 10 days.	9 plus 14 days.	Was absent from her husband before and at time of menses, and until the night of Sept. 27.
7	Dec. 12, 1878.	Dec. 15, 1878.	At 1 o'clock a. m., Sept. 14, 1879.	275	3, male.	10 less 5 days.	9 less 2 days.	Conception took place just before onset of a partial menstruation. The three days of partial menses are counted.
8	Dec 31, 1878.	Jan. 3, 1879.	Evening of Oct. 5, 1879.	275	2, male.	10 plus 2 days.	9 plus 2 days.	
9	Jan. 9, 1879.	Jan. 12, 1879.	Evening of Oct. 11, 1879.	272	2, male.	10 less 5 days.	9 less 1 day.	
10	Feb. 5, 1879.	Feb. 8, 1879.	Morning of Nov. 13, 1879.	277	5, female.	10 plus 1 day.	9 plus 4 days.	
11	Feb. 21, 1879.	Feb. 24, 1879.	Morning of Dec. 2, 1879.	280	2, female.	10 plus 4 days.	9 plus 8 days.	
12	Mar. 3, 1879.	Mar. 5, 1879.	Morning of Dec. 6, 1879.	275	3, female.	10 less 2 days.	9 plus 1 day.	
13	April 12, 1879.	April 15, 1879.	Jan. 16, 1880.	275	6, female.	10 less 1 day.	9 plus 1 day.	
14	April 25, 1879.	April 28, 1879.	Feb. 6, 1880.	280	1, female.	10 plus 7 days.	9 plus 9 days	Married May 1, 1879, and first coitus took place that night.

of labor a few days before full term. And any case happening after 276 days, I would consider due to the non-meeting and impregnation of the germ cell by the spermatozoa for some days after coitus.

Any special comments on this table are unnecessary. As a rule the day of labor is not counted in the duration of utero-gestation. But in the few cases where labor set in on the evening of any day, that day is counted in the duration of pregnancy. All of my fourteen cases are intelligent married ladies, in whom the function of menstruation is normal. The outset, duration, and cessation of the catamenia were accurately known in each case. Not one of these fourteen ladies could have the slightest object in deceiving me. The duration of pregnancy was calculated in the presence of each lady, from the data furnished by her for the sole and plain purpose of finding the date of labor. The last day of the menstrual flow, that is, the day it ceased, is not counted in the duration of utero-gestation, because the fruitful coitus did not take place until the night of the day on which the flow ceased. The few cases where menstruation had terminated one or more days before coitus was possible, are noted in the table. These are, it will be seen, cases 1, 6, and 14. Case 7 is positive, from well-known symptoms and sensations, that she conceived from a coitus held just before the outset of the menses, which were not entirely, although very nearly, suppressed. The three days of very slight menstruation are included in the duration of gestation. Her labor began 275 days from the fruitful coitus, and five days before the tenth recurrence of the menstrual epoch. Nine of the fourteen cases show that labor set in, almost to the very day, at a time to correspond with a tenth recurrence of menstruation. But in each of these nine, it is most probable that the coitus which took place the night following the cessation of the menses, was the fruitful one. This accounts for the close coincidence of the two. The remaining five show quite a disparity in time between the two facts; but this difference can be explained easily in cases 6 and 14. Case 14 is a primipara, the child a female; yet, from first coitus to labor is just 280 days. In cases 1, 2, 4, and 5, being primiparæ also, the child, though of different sex, was carried to full term.

Sioux City, Iowa.

Article II.

Some Points in Diphtheria. By C. J. Lewis, M. D. Read before the West Chicago Medical Society, February 14th, 1881.

Mr. President, Ladies and Gentlemen:—That inexorable governess, Fashion, rules no less in medicine than in the æsthetic arts, in dress or in religion. She has formulated dogma for the votaries of Hygeia to amplify by their life work, with a special request to uplift their "Brazen Serpent" with a zeal and energy second to the devotees of no creed, of no religion, nor of any philosophic bias. Thus we have had a school of humoralists, of solidists, and lately, of vitalists.

For the last twenty to twenty-five years, the creed for diphtheria has been its bacterial origin. This dogma has either been more enthusiastically indorsed or passively acquiesced in by the profession, than any other creed that has ever been formulated in medicine. Upon this substructure, composed of spores moving hither and thither with remarkable alertness logically, is constructed the doctrine of contagion and sepsis. If the basic substance of this substructure—pseudo-membrane—is inadequate to build it up *from within*, and there should arise good reasons for believing that it is largely formed by accretion, as it seems the experiments of Drs. H. C. Wood and Henry F. Formad indicate, then the theory of contagion and sepsis falls prostrate at our feet.

Jacobi says of the poison of diphtheria, "that it behaves in the same manner as the acarus scabiei: that this poison is certainly transmitted by spoons, glasses, handkerchiefs and towels used by the patients. * * Moreover, the nature of the affection is still little understood, and the question of a local or a general beginning of many individual cases of the disease still remains a mooted point." Whilst Jacobi is somewhat skeptical as to the germ origin, he, in the above quotations, expresses a belief that the disturbance set up in the human organism by diphtheria is the direct result of an entity—a poison that can be seen, handled,

and, as many can testify concerning the acarus, be felt. According to this theory, this mythical something, which is so restless, so turbulent, and, withal, so fleet of wing, after multiplying a million fold diffuses itself in or becomes intermixed with the atmosphere, and from thence is lodged upon clothing, sores, or furniture in the adjacent areas of its first attack, as well as to pierce the mucous membrane of the mouth and fauces as the bacterate air is respired, and soon becomes commingled with the blood—its natural abode—where it generates other untold millions, resulting in the so-called blood-poisoning.

In this manner the poison is absorbed into and contaminates the system from the lungs, a sore on the skin, or, preferably, the mucous membrane of the mouth and fauces. But what is singular of this *poison*, this *entity*, this *thing of dread*, is, to quote Jacobi again—"that the diphtheritic membranes which are swallowed are rendered innocuous by the 'gastric fluids.'"

This intelligence and wisdom of the "gastric fluids," to say the least, is remarkable in that it "renders innocuous" the poison of diphtheria, having its nidus in the membrane which the patient may swallow—while such a guardian angel stands by, as a pastime; when the same "fluid" fails to "render innocuous" strychnia, arsenic, veratrum, or any of the other known poisons. I am at a loss to know how this author can see the diphtheritic process enter the blood by the lungs, through a sore, or an abrasion, and utterly fail to observe its entrance into the vascular system by the open mouth of the absorbents in the primæ viæ. Relying upon my own observations and the experiments of recent observers, I am of opinion that diphtheria is not produced by germs, nor do I believe it to be contagious.

From what has now been said, I am prepared to turn the powerful enginery constructed by Jacobi for the express purpose of demolishing the arguments of the bacterial philosophers, against the framers, upholders and promoters of the contagion theory, namely: "The constant repetition of the same statements does not render them any the sounder." * * * "For it is certainly very apparent, here, too, that the nature of the diphtheritic poison has been postulated in the interest of the contagion theory."

To me, diphtheria is a pyrexia,—a disease having a special

predilection for evolving its inflammatory products in, or upon, the mucous membrane of all of the upper portions of the respiratory tract. This pyrexia or inflammatory fever is, in my judgment, closely allied to rheumatism; but having more of adynamia than rheumatism, and, when epidemic, it followed periods when rheumatism had prevailed. Mackenzie says that "The contagion lives under ordinary atmospheric conditions, but it is probable that dampness favors its development." Damp weather is likewise thought to favor the development of rheumatism. Then, again, pain is a prominent symptom in diphtheria. The pain caused in the fauces by attempts to swallow liquids is out of all proportion to the apparent local lesion. About four-fifths of my cases had as a first symptom, *soreness and stiffness of the muscles of the neck.* Mackenzie says there is at the outset stiffness of the neck; Dr. A. B. Woodward, of Pennsylvania, says that "almost every case has been taken with a stiff neck;" and a Dr. Hitchman, of New York, mentions stiffness of the neck as a symptom. These three are all whom I have been able to find, who give soreness and stiffness of the muscles of the neck as a symptom in diphtheria.

But the action of the diptheritic process upon the heart and blood vessels is almost a perfect prototype of the rheumatic process. In grave cases, the heart beats in diphtheria very fast at first, then slowing and intermitting, towards the close in fatal cases, it beats very feeble and fast. This is very like the action of the heart in rheumatism or aconite poisoning. Mackenzie says that the pulse is very weak and compressible, and often either exceptionally rapid or exceptionally slow, while the first sound of the heart is muffled and devoid of tone." But Jacobi has so aptly described the behavior of the heart under the diphtheritic poison, which is such a direct parallelism to rheumatism, that I beg your indulgence in quoting the paragraph, namely: "The result, of course is considerable weakness of its muscular tissue, evidenced by the formation of local (Beverly Johnson) thrombi; general sluggishness of the circulation, dyspnœa, muffled heart sounds, a cool and pale skin, and sudden death, preceded by a very feeble and frequent, sometimes, however, by a very slow pulse. Aside from this, there are actual cases of

endocarditis during the course of diphtheria, or convalescence therefrom. It affects especially the valves, and among them particularly the mitral. It is characterized by high fever, precordial pain, attacks of syncope, and a systolic murmur." So we see that both of the above cliniciens undeniably hold that the heart failure in diphtheria is primarily due to septic forces. It seems to me, however, that if we would be in close accord with the clinical study of diphtheria, that this adynamic state has a more rational explanation in the rheumatoid condition of the heart, the anæsthesia of the vaso-motor nerves, and the consequent hyperæmia, especially of the uriniferous tubules of the kidneys, than in a specific sepsis or blood-poisoning. For it can but be hurtful to the granular spot, or morphological unit, of each and every cell composing our bodies to have blood offered to it for nutrition, which is heavily laden with detritus, resulting from the vastly diminished exhalation, or lessened functional activity of the hyperæmic state of the kidneys, skin, and lungs.

There is local hyperæmia in the upper respiratory tract, evidenced by the deep livid hue of the mucous membrane, which, on account of the anatomical relation of the blood vessels, is made very apparent. Through the inflammatory process the dilatation of the walls of these vessels occurs on the side where there is the least resistance allowing in this manner a greater freedom for exosmosis towards the mucous membrane of the inflammatory *precincts*, namely, the *diphtheritic membrane*. The redness of the fauces is soon superseded with lividity, at which time the accompanying symptoms make it possible to diagnosticate diphtheria. This *livid color* of the faucial mucous membrane, according to my observation, is characteristic of diphtheria before the appearance of the membrane. Dr. Goss, of Tanner fame, in describing diphtheria, says, "The fauces look inflamed, they are of a dark mahogany color." And a Dr. E. G. Jones, in a journal, mentions lividity of the mucous membrane of the fauces, tonsils, and pharynx as a symptom. Jacobi says there is hyperæmia.

POINTS.

The basic substance of the diphtheritic membrane is eliminated from the blood, if diphtheria is produced by sewer gas or decom-

posing organic matter. But there seems to be good reason for believing that the pseudo-membrane is largely formed by accretion, and wholly so, so far as it is composed of germs. Then a failure to prove that diphtheria springs *de novo* from bacteriæ, renders the theory of contagion and sepsis untenable.

Diphtheria is a pyrexia. It is a rheumatoid adynamia, with anæsthesia of the vaso-motor nerves, and consequent hyperæmia of the uriniferous tubules and capillaries, followed by a diminished exhalation, or functional activity of the kidneys, skin and lungs. The great emunctories thus lagging in their scavenger work, there comes coincidently over the person a malaise.

Lividity of the mucous membrane of the fauces, tonsils, and pharynx, with soreness, swelling and stiffness of the muscles of the neck, are marked symptoms in diphtheria. The diphtheritic membrane, being an exudate to the surface by the outward free exosmosis, becomes very soon a nidus for bacteriæ.

I will here describe two cases; one, a so-called blood-poisoning, the other, a case of the sthenic type.

At the bedside of a well-nourished boy, aged about $2\frac{1}{2}$ years, in mid winter, I find him lying on his back, with intense pallor of the face and lips; large drops of cold sweat on the forehead; the hands and surface of the body yielding a cold and clammy feel; pulse 180 per minute; exceedingly feeble; swelling of the glands of the neck, with soreness and stiffness of the lateral muscles of the neck; tumescence and lividity of the mucous membrane of the pharynx, tonsils and fauces, and soreness of throat. This patient did not develop a membrane in this illness. The pupils were widely dilated, and he was profoundly indifferent to all that was going on around him, excepting that he complained of pain when efforts were made to move his head. This little patient had come from comparative good health to this condition in about twenty hours after having been unduly exposed to cold.

The sthenic case—an adult, was delivering coal from the cars on a cart to families, a November day, when the weather was, according to the paragraphers—a blizzard. While loading he sweated, and cooled when riding. He complained nearly all day of having chilly sensations, followed by flushes of heat, and as the day wore on, his neck stiffened and his throat became sore. At

night his throat was parched, was thirsty, and restless from "fever." The following day finds him with all the symptoms intensified. When I arrived at 5 P. M., his skin was dry, pulse 120 and hard, face flushed, neck stiff, with but little swelling of the glands of the neck. The tonsils and back of the pharynx were covered with pseudo-membrane, and the adjacent mucous membrane was of a livid color. The tongue was heavily coated with fur. He complained of frequent micturition.

Treatment.—The arm of the physician is not much better than though it were palsied, if he is unable to bear in his open hand the needed remedies fresh from his armamentarium to either dispel from, or to neutralize in his patient the morbific forces that oppress him. After settling in his mind what these forces probably are, he systematizes the indications. The administration of remedial agents without well ordered plans would be tentative—empirical.

The first indications in diphtheria are to lessen the inflammatory engorgement of the mucous membrane in the upper respiratory tract and kidneys; and, second, to restore the functional activity of the skin and kidneys.

A very good plan to meet the first indications, and in my hands a very successful one, is to lessen the irritability with opium, to arrest the tendency to dilatation of the capillaries with small doses of belladonna and aconite, and to modify the epithelium with small doses of potassic chlorate. These drugs may be combined for a child aged 2 to 3 years, as follows:

℞. Tr. Aconit. rad. ..... gtt. x.
Tr. Belladonn. ..... gtt. xx.
Tr. Opii deod. ..... gtt. xxx.
Potass. chlorat. ..... ʒi.
Aq. dist. ..... ad ...ʒiv

M. S. Give a teaspoonful every hour or two.

From 10 to 15 doses of this prescription would be given in 24 hours.

In addition to the above I usually give something like the following:

℞. Sod. salicylat. ..... ʒi.
Spt. nit. dulc. ..... ʒij.
Syr. tolu. ..... ʒxiv.

M. S. Give a teaspoonful every two hours.

Locally on the swelled glands of the neck I apply Ol. camph. U. S. P.

Jacobi, on page 197, relates having treated what he called "diphtheritic fever" successfully with salicylic acid and bicarbonate of sodium. This points very strongly to a rheumatoid state.

I treat the sthenic and asthenic forms of diphtheria alike; excepting that I maintain an increased opium influence in the asthenic variety for from twenty-four to thirty-six hours.

The improvement in the condition of the patient is noted by the slowing of the pulse; by the gentle and uniform moistening of the skin; a thinning, and the final removal of the exudate in from 30 to 50 hours; a gradual return of the arterial hue of mucous membrane of the fauces, tonsils and pharynx; relief from pain, diminished thirst and normal urine.

ARTICLE III.

ON PHYTOLACCA DECANDRA. By W. C. WESTERFIELD, M.D.

In these days of new application of old remedies, and of restoration of the obsolete, I wish to introduce to the profession a long neglected yet highly virtuous member of our Materia Medica. There is but little history connected with Phytolacca Decandra, and what there is dates far back in our country's history in medical literature, with perhaps a few exceptions. We learn that at one time it held a high place as a remedial agent in the South, and especially in the Carolinas. Our oldest professional men will tell you that they have once heard of it as doing wonders in a curative way, but that it finally fell into disuse. Now, it is this neglect which I wish to inquire into, and if possible, explain as to how it came about.

In the year 1859, I wrote an article which was published in The *St. Louis Medical Journal* upon this subject, and which attracted quite an interest at the time; but the foot of war fell upon it, and it was tramped out of sight. At that time I wrote more from the experience of my father, who, in an active practice extending over a period of nearly forty years, had used it

continuously. Since that time I have had recourse to it more than to any other remedy of its class, and can fully verify the opinion of it held by my predecessor, for it seldom fails to accomplish the object for which it is used, as for certainty of action it will take rank with the most unfailing of our remedies. The question then presses for an answer, Why has it fallen into disuse? A few years ago, and shortly after coming to Chicago, I desired to use the remedy in question, and procured it from one of our best druggists, but found that it did not have any impression upon the disease. I prescribed the fluid extract. I then had recourse to the freshly dug root from near the city, prepared a saturated tincture, feeling satisfied that now it would act as in former times, but to my surprise it did no such thing, which was as unexpected as if I had failed with quinine in an intermittent. I now determined to procure the roots from the same locality—where both my father and I had gotten it in former years—in the South, where, in protected places, the sun shone upon it from February to November. From this I carefully prepared a tincture, and again made an attack upon the same cases in which I had formerly failed, and with the great satisfaction of seeing it manifest its peculiar action within a few days, and shortly after, completely eradicate the diseases in question. I then ordered a quantity of the same roots and continue to use the remedy, with the satisfaction of seeing its old time virtues still present.

Now, after this, and many subsequent proofs, I feel that the question as to its disuse has been solved, and that climate—not the remedy—is the cause of its failure in the hands of the physicians in the North. The perfumer must use the flowers from semi-tropical regions. Many of our vegetables deteriorate when transplanted from a warmer climate, and why not phytolacca decandra? In the Southern States this plant assumes gigantic proportions as compared with that grown in the North. With such diminution in growth, we may infer a diminished virtue, aside from the test applied to it.

The plant is too well known to enter into an elaborate description of it, but one thing I wish to mention, with all due deference and modesty, that which I have not seen mentioned elsewhere. My father and I recognized two varieties of this plant.

It may have been the conditions of growth, or the peculiarity of location—yet the two are so distinct as to merit mention at least—not botanically, but in their general appearance. One is a tall, tree-like plant—in some specimens twelve feet in height—flowers few, fruit small and sparse, main stalk and branches comparatively slender, and of a light green color. The other, and the one preferred, is more compact in general appearance, full, dense foliage of a dark-green color, fruit large and abundant, main stalk and larger branches of a deep, rich purple. The root, the part used, is thick and fleshy, abundant with starch and mucilaginous matter of a sweet mawkish taste, tardily but decidedly pungent to the mouth; a peculiarity, by the way, not found in the fluid extract nor in the root of this climate. It is best gathered in November, and must be carefully dried in the shade. Dampness is fatal to it, fermenting the starch, and for this reason it will not keep over until the following season, and that found in the drug stores is generally inert for that reason. The liquid after digestion, should never be evaporated except in vacuo.

The indications for its use are varied, fulfilling, as it does, the want so much felt in that class of remedies known as alteratives.

In obstructed or sluggish glandular action it may be used with excellent effect. This is especially true of all liver disorders. Also in all eruptive or desquamative skin diseases. I have seen some of the most obstinate and long standing of this latter class completely eradicated within a few weeks' time, after having resisted every known remedy in the hands of some of our best physicians. In rheumatism, too, just after the acute stage has been passed, and especially in the chronic form, it has done much service. In scrofulous diseases it may be used from the outset of the first symptoms, especially in the eruptive kind.

One peculiarity I must mention, which occurs after its use for eight or ten days, and that is, there appears an eruption upon the breast and back—sometimes on the face—about the size of millet seed. This, however, disappears in a short time, and with it, eruptions of skin diseases. This is often the process of cure, yet it will occur without this phenomenon, as it does not occur in all cases.

As corroborative of its effect upon glandular troubles, I will

mention the fact that its effect upon irritation of the ovaries, with uterine complications, is most pronounced, especially where there is a tendency to hysteria. I have also seen, from an article by one of my father's former pupils, that he claims almost specific virtues in it, in threatened abscess of the mammary glands, in the beginning of lactation. I have had a similar experience, also in a case of irritation of the ovaries in a recent case which yielded within a week's time. In my father's practice a favorite combination was phyto. decan. and guaiac. In some cases, however, the latter was found to be too stimulating, and was replaced by pipsissewa, which proved to be an excellent combination. I now use it in connection with salicylate of soda, especially in preventing transition from acute to chronic. But, given alone, in as full doses as can be well borne, the phyto. decan. will be found to be an excellent remedy in all forms of subacute and chronic rheumatism. It has been recommended in syphilis, and in syphilo-dermata in connection with mercury, it has done efficient work, and seems to facilitate a cure in all forms where mercury is used.

In discolorizations of the skin, termed blotches, in deposits of yellow "bilious" pigment, and in acneiform pimply skins, it has proven quite efficacious. The manner of administering it is to give a teaspoonful three times a day, gradually increasing to two teaspoonfuls, in a little water. It sometimes produces nausea, if given in full doses at first. In this case the reduction of the dose, or the addition of tr. gent. com., but sometimes nothing less than a cessation for a time, will suffice. Yet, with some, large doses are well borne. A gentleman recently took half an ounce, four times a day, for removing pimples from his forehead, with the effect of a free purgation only, and the removal of the eruption within a week.

I could mention many cases of cure and of beneficial results, but will not at this time. What is here written is for the purpose of enlisting others in a trial of the remedy. There are given here only a few hints as to its field of usefulness, hoping that others more competent may find, as I have, that in phytolacca decandra we have a remedy which may be depended upon.

Article IV.

Case of Spontaneous Ante-partum Hæmorrhage—Slight Symptoms Proportionate to Amount of Blood Lost.

By G. Frank Lydston, M. D., House Surgeon Charity Hospital, N. Y.

The patient, K. S., is a primipara, and had always enjoyed excellent health previous to pregnancy. Is a robust woman, twenty-four years of age, and apparently in the best of health. There is no history of venereal disease, or intemperence, but patient states that she has had leucorrhœa to a slight degree at times. The date of last menstruation, was February 22, 1880. Patient began to have gastric disturbances about the middle of March, and this has persisted up to time of labor, causing considerable annoyance, but with no apparent deleterious effect upon her general health. States that she has passed less urine than formerly. No other trouble was manifested until Oct. 1st. On this date, at about 10 A. M., patient had a slight attack of syncope, consciousness not being completely lost, but patient being compelled to lie down. She stated that she had caught a severe cold, and felt faint and dizzy. She appeared to have a slight coryza, and the surface was cold, being covered with a cold perspiration. None of the symptoms, however, were especially marked. No pain whatever was complained of. Patient was ordered to bed, and gr. x of Dover s powder administered, and, on the following morning she arose feeling quite well. On Oct. 3d, at 3 P. M., being the third day after trouble above mentioned, patient began having slight pains, but said nothing about them, until 6 P. M., at which time I was called and found os fully dilated. No presentation could be felt. At 6.55 membranes were ruptured and child, descended in pelvis, the breech presenting in R. D. A. position. The lower limbs and breech were delivered at 8 P. M., and there being some delay in delivery of head, it was extracted. The placenta was retained until 9 P. M. when it was removed by hand. The child was dead, and the epidermis had become macerated so that it came off readily in large patches, showing that death had

occurred several days before labor. At the time the breech engaged in the pelvic brim, a small soft mass was felt protruding by its side, and posteriorly. This descended, and was expelled simultaneously with the head, proving to be a firm clot, evidently several days old, and sufficiently organized to retain its integrity under a quite forcible stream of water. It was found to weigh 23½ oz. av. No definite cause for this hæmorrhage could be discovered, although the placenta appeared to be slightly waxy, not being however examined microscopically. An autopsy was held upon the child, but nothing was discoverable, save a small amount of amyloid deposit in the liver.

The patient vomited a greenish fluid shortly after delivery, but said that she felt better as a consequence. She manifested no untoward symptoms subsequently, and was convalescent on 10th day.

The case appears rather peculiar and somewhat interesting, in view of some of the facts above mentioned. Here was a woman in perfect health apparently, who suffered from a profuse accidental hæmorrhage, coming on with no evident exciting cause. She was perfectly quiet at the time, if, as I infer, the slight attack of syncope which she had several days before labor, was the result of loss of blood. Although of a full habit, it is singular that the patient could lose such an amount of blood and present such slight symptoms. There may have been syphilis in the case ; the slight waxy changes in placenta, and in the liver of the child, may have been the results of that disease, still the mother had neither history nor evidences of it. This would not exclude syphilis, however, as the father may have been at fault, as is now pretty generally held in regard to hereditary syphilis. This waxy change existing, it is possible that the retching and vomiting which occurred on the morning of the attack of syncope, caused a partial placental detachment, with hæmorrhage as consequence. It is remarkable that so large a clot, acting as a foreign body, should not bring on labor immediately, rather than in several days thereafter.

ARTICLE V.

A POINT IN THE TREATMENT OF HIP JOINT DISEASE.

By NORMAN H. CHAPMAN, M. D., M. S., late House Surgeon to the Philadelphia Orthopædic Hospital, etc.

The old plan of treating coxalgia by long continued rest in bed with weight extension, while it is correct in principle, is at the same time a great tax upon the general health of a patient. Persons of a naturally strong constitution may, under proper conditions, be put to bed for a considerable period and not overtax their powers of endurance, but with the average victims of hip joint disease it is highly prejudicial to confine them to bed for a longer time than is absolutely necessary to get control of the acute inflammatory symptoms. The condition of the general health bears such an intimate relation to the onward progress of the disease that it should receive every possible attention.

During the first stage of this affection when the joint inflammation is acute, there is unquestionably no better mode of procedure than by giving the parts rest in bed, separating the articulating surfaces by weight extension, and the local application of croton oil, the hot iron, or some other powerful counter-irritant. This plan, however, must not be persisted in too long. In fact just as soon as the acute inflammatory symptoms have been placed under control, it is good surgery to get the case up and about, keeping it as much as possible in the open air. Out-of-door exercise and the liberal use of such a tonic and dialectic regimen as will best tend to build up and invigorate the general health should be encouraged. No particular which tends to elevate its general tone is beneath consideration.

The value of early getting a case of hip joint disease out of bed and into the open air was very clearly set forward a few years ago by the advocates of the treatment of such cases by means of a high heel and sole upon the well side, together with a heavy mechanical appliance attached to the affected limb. The principle involved in this plan of treatment—*i. e.*, that of swinging the limb—is a good one, and the point to which I desire, at

this time, to call your attention is the ready means by which it can be carried out with the aid of a fixed dressing and a pair of crutches.

The mode of applying the fixed dressing referred to is simple. The leg of the affected side is flexed upon its thigh to a little more than a right angle, and is then encased in either a silicate of soda, plaster of paris, or glue and acetate of lead permanent dressing. After the dressing has been allowed to harden it is cut open on one side, and should be provided with shoe-hooks, or eyelet holes and laces, so that it can be removed at will. During the day the patient wears the fixed dressing and walks about upon crutches. The foot of the affected side does not touch the ground, the limb swings, and the combined weight of the lower extremity and dressing keep up constantly a sufficient amount of extension to prevent the articulating surfaces of the joint from rubbing against each other. During the night, when the patient is in the recumbent posture and the influence of gravity is removed so that no extension is produced, the fixed dressing should be removed and a weight extension apparatus applied. For this purpose the Morton extension apparatus* is very convenient, as it is quickly taken off and re-applied. Weight extension by means of the adhesive strips answers every purpose, however, when the Morton apparatus is not at hand. The ankle knot may also be used, and is frequently all that is required for the over-night extension.

There have been a variety of braces and mechanical appliances brought to the notice of the medical profession for the treatment of coxalgia, and each from time to time have had their especial advocates. While I do not in the least deprecate the use of such apparatus—and especially good is the one made by Messrs. D. W. Kolbé & Son, of this city,—still they are all (that is those which are of any use) far too expensive to be employed by the general practitioner in the lower walks of life. The call is for something which does the work of a costly extension apparatus, and is at the same time within the reach of all. The fixed dressing which I have described would seem to fulfill this indication. It is simple,

* Surgery at the Pennsylvania Hospital, P.

comparatively inexpensive, and from abundant hospital experiment has been found to be equally efficient with the most approved methods of treatment by mechanical apparatus now before the profession.

PHILADELPHIA, March, 1881.

ARTICLE VI.

RESPONSE TO THE TOAST "DENTISTRY AND DENTAL EDUCATION—ITS PAST, PRESENT AND FUTURE, AS RELATED TO MEDICINE," at the Alumni Association Banquet, Rush Medical College, February 22, 1881, by W. W. ALLPORT, M.D., D.D.S., of Chicago.

I hardly know how to respond to the sentiment just read. "Dentistry and Dental Education—its Past, Present and Future, as related to medicine," contains, as the lawyers would say, several "distinct counts," either of which gives rise to more thought than can well be expressed in the time it would be proper for me to occupy on the present occasion. Contrary to the popular notion, dentistry is not entirely of modern origin. Its history dates far back into the centuries.

To respond fully, therefore, to the sentiment proposed, I should be obliged to trace carefully and consecutively to histry, both ancient and modern, and assume to be a prophet and foretell its future.

With facts at hand and time to do it, it is not a difficult task to write history; but it is always a risky business to venture upon prophecy.

As we are far more interested in the present and future of dentistry than in the far-off past, I shall be pardoned, I trust, Mr. President, if I but briefly allude to its early history, and confine what I may say to more modern times; and instead of predicting the future of dentistry, I will state what I think it ought to be, trusting that what should be will be.

Of the early history of dentistry we know but little. That it was practiced at a very early period is fully proven by the facts that teeth well-preserved from gold fillings have been found in

the mouths of mummies, and also that artificial teeth, mounted upon gold plates have been discovered in the monuments of the Egyptians.

We are told that the ancients practiced it as a specialty in medicine. But if so, its practice—like that of surgery—seems to have fallen into the hands of mechanics at a later period.

During the latter part of what is known as the middle ages in Europe, surgery, as you are aware, was practiced by barbers, by the advice and under the direction of physicians; and it will hardly do to suppose that at this time dentistry was of higher rank than surgery.

Soon after this, or cotemporary with the period mentioned by medical writers as the revival of surgery, the first steps were taken toward modern dental surgery; and associated with the dental literature of those times stand the names of Eustachius, Fallopius and Paré, known to have been among the first, if they were not the very first, surgeons and writers of their times. In fact, it is owing to these great men of that day that surgery, whether general or special, was first placed upon a scientific and reliable foundation of dissection. Later, other medical men wrote more or less upon the anatomy, diseases and treatment of the teeth. Prominent among these was John Hunter, up to whose time England or the world had not produced so great a surgeon. I mention these things to remind you that the writings upon the teeth up to about the last of the eighteenth and first of the nineteenth centuries were by anatomists and surgeons, and, I will add, that they treated more of the structure, functions and diseases of the teeth than in giving any practical direction as to their treatment when diseased.

As the structure and functions of the teeth became better understood, and their importance to a healthy condition of the body more fully realized, medical men began to appreciate the importance of their preservation. But class influence, which has always ruled so strongly in European countries, and placed the ban of social ostracism upon all who engage in hand labor, may be assigned as one reason why practical dentistry did not receive its first great impulse from those who did so much to enlighten the medical profession as to the structure of the teeth and their diseases.

Dental operations at that time, whatever they may have been —like the rude surgery of a century or two before—seem to have been practiced as an art; the latter by barbers, and the former by jewelers and smiths. Dentistry in those days consisted very largely of making artificial teeth.

During the latter part of the eighteenth century, the art began to be practiced in America. As it proved to be remunerative for the services rendered, and as muscle and brain enter into a more equal contest for respectability in America than in Europe, our country became the most fruitful field for the development of practical dental science. Americans, always quick of perception, soon discovered that diseases of the teeth could not be intelligently and successfully treated without a knowledge of their anatomical structure, as well as of their surroundings; and, like the barber-surgeons of whom I have spoken, they began to study anatomy. Some even ventured so far upon the domain of medicine as to acquire a limited knowledge of physiology and pathology, and, with the purchase of a few secret prescriptions, they assumed to be and the people dubbed them as "doctors." As the need for a more scientific education became apparent, medical men began to engage in the practice of dentistry, both as operators upon the natural teeth and as makers of artificial teeth. From this point, especially in our own country, the science and practice of dentistry rapidly developed. Dental magazines and text-books were published, dental associations and colleges were established, and soon the superior skill of American dentists became so generally acknowledged that their services were in demand in nearly all the countries of Europe.

When dental colleges were first established, dentistry consisted mainly in the cleaning and extraction of the natural teeth, in the treatment of inflamed or diseased gums and in filling what would now be regarded as the simpler forms of cavities; also in mounting artificial teeth upon gold and silver plates, in the setting of pivot teeth and in regulating the simpler cases of malarranged teeth. At that period, extraction was the approved treatment for teeth with exposed or aching pulps, abscess of roots or absorbed sockets. *Now*, not only teeth with exposed but dead pulps, abscess of roots, atrophied surroundings and necrosed jaws

are regularly and successfully treated and saved. In no corresponding period of time have the improvements in surgery been so great as during the present century, and in no department of conservative surgery have they been so emphasized as in the treatment of diseases of the teeth and mouth; and to my calling must the credit of this improvement be mainly given. *Now* to adopt extraction as the rule of practice in such cases would be considered mal-practice.

Artificial teeth are now mounted not only upon gold and silver plates but upon at least ten different bases, of various degrees of applicability and usefulness in the cases requiring substitutes —each requiring an entirely different manipulation and mode of treatment. In order to bestow the greatest benefits of the art, a thorough knowledge of making and applying these various kinds of work is absolutely essential.

In addition to the great improvements in the setting of artificial teeth, as a branch of mechanical dentistry, artificial fixtures are now so constructed as to be far more generally useful in the treatment of cleft palate than is the surgeon's knife. These improvements are but indications of the advance in all directions in practice.

In the earlier days of our dental schools, so little was embraced within the practice of dentistry that a two-years' course of college instruction seemed sufficient to qualify students to practice in the two departments at the standard then maintained. But with the improvements and expansion thus far made, it is no longer possible. There is enough now embraced in either department to engage the entire time and talent of any one individual, and the greatest excellence can only be secured by a division of practice. Those whose tastes and talents best fit them for mechanical dentistry should pursue that as a branch of art, and give it their exclusive attention; and those who practice dental and oral surgery should pursue it as a branch of medicine, and educate themselves accordingly. To this division of practice the objection is urged that the two departments "lock and inter-lock" so intimately that the separation is not practicable. No doubt patients would find it more convenient to receive the mechanical and medical treatment from

the same person. So, too, it would be more convenient for the afflicted to have their limbs amputated and artificial ones supplied by the same practitioner; or to have the otologist treat the ear and furnish ear-trumpets of his own manufacture. But experience has proven that patients are best served by receiving medical treatment from medical men, and manufactured articles from mechanical artists.

The same principle holds good, and must hold good, in the two departments of dentistry.

An accomplished mechanical dentist must now not only understand the nature and manner of manipulating the various materials I have mentioned into plates for artificial teeth, but he must be so skilled as a mechanic that he will be able to adapt these materials to the requirements of the case in hand in such a way that patients will derive the greatest benefit possible from artificial teeth as masticators. He should be so versed in art that he can adapt them to the face of the patient—in size, shape, color and position in the mouth—so perfectly as to conceal the fact that they are not natural; and so fully should he understand the essentials to correct and easy enunciation that they will act as aids instead of impediments to speech, as is now too frequently the case.

The apprenticeship to an ordinary trade is not less than three years, and it can hardly be claimed that less time should be devoted to acquiring this most difficult art than is spent in learning to be a blacksmith or a carpenter. Whoever pursues the calling properly will have no time for the practice of medicine in any of its branches.

About the same degree of anatomical knowledge should be required of the mechanical dentist that is expected of the painter, sculptor or maker of artificial limbs, and more than this is scarcely necessary.

I have now, as concisely as possible, given you a general idea of the history and present status of dentistry; and I wish to say, in as emphatic a manner as I can, that it is to our dental colleges, and to the arduous and self-denying labors of the teachers in those schools, more than to any other cause, that dentistry owes its present honorable position in the community and its standing

among the sciences. Each succeeding year the teachings in our dental colleges are becoming more scientific, reaching farther into the realm of medicine; and still they claim to cover but a portion of the science in their teaching. In proportion as students are inclined to the study of medicine are they disinclined to practice in mechanical dentistry. Not only is it becoming distasteful to this class of practitioners, but they are dissatisfied with confining their operations exclusively to the teeth. Gradually but surely are the best medically educated dentists reaching for and bringing within the scope of their practice all operations and treatment not only of the teeth but of the jaws and oral cavity, and owing to their great familiarity with the diseases of the mouth and their habitual use of the delicate instruments required, it is fitting that medically-educated specialists in dental and oral surgery should control this department of practice. The ease and accuracy they acquire in operating about these parts could not be possessed by the general surgeon.

Any treatment for arresting disease is legitimately a branch of medicine, no matter whether it be pills, powders, the surgeon's knife, the cautery or materials for filling teeth. All are equally therapeutical agents. But their intelligent use must be based upon a knowledge of anatomy, physiology, pathology, chemistry and therapeutics; for the human organism is so intimately related that each part, either directly or indirectly, affects every other part. The same heart's blood sends its arterial currents to every point; the same nerve centers radiate their impressions throughout the system, and the same vital force pervades every atom of its structure. This specialism, therefore, cannot be legitimate unless its practice is laid in the fundamental principles of medicine.

Appreciating this fact, there is a growing tendency among the best dental graduates to make the diseases of the teeth and mouth a specialty in medical practice; and that they may be better qualified to do this, many of them supplement their dental education with a full course of instruction at our medical colleges.

Much of this time could be saved if these colleges provided ample instruction in dental and oral surgery, and exacted of

their graduates a knowledge of the pathology of the diseases in this specialty and the science of their treatment.

Dental text-books devoted to diseases and treatment of the teeth are seldom found in medical libraries, and medical text-books, as well as lectures in medical colleges, have hitherto been comparatively silent upon this subject; which fact has necessitated the organization and maintainance of dental colleges—until it is claimed by some that dentistry has almost created for itself a separate science. But since the teeth constitute a portion of the human body, there can be no separate science for the treatment of their disease.

All change from rest to unrest in any organ of the body is a change from health to disease, and its pathology and treatment should be taught in medical text-books and colleges. Without it they are but partial teachers of the curative art, and fall, therefore, short of accomplishing their whole mission. As medical colleges are now constituted, medical graduates go forth in as great or greater ignorance of diseases of the teeth than do dental graduates of general disease. As an illustration of this lack of knowledge on the part of physicians, I will give a single instance, which is a fair sample of others constantly occurring, and which could be given by almost any dental practitioner.

A physician of large and respectable practice came to me a few months ago with a patient having a swollen face. Said he, "Doctor, this patient has been suffering for several days with toothache, and as nothing I can do affords relief I have brought her to you to have the nerve killed." I replied:

"Yes, Doctor, I see it is an ulcerated tooth. The nerve has undoubtedly been dead for a long time."

On raising the upper lip, I called his attention to an abscess just ready to burst, over the root of a cuspid tooth. I took my bistoury and, with a slight puncture, brought the pus. Said he, "Doctor, are you *sure* the nerve in that tooth is dead?" I replied that an abscess over the root of a tooth was one of the surest indications of the death of the pulp, and passed an instrument the entire length of the nerve canal, to convince him that the pulp was dead. He looked thoughtful for a moment, and

said, "I don't think physicians know much about diseases of the teeth." I told him I thought he was nearer right in that remark than in his diagnosis of this case.

Now, this physician was not only a professor in a medical college but he was the occupant of a chair, which made it reasonable to suppose that he would know the difference between pulpitis and alveolar abscess. Had he but listened to a few lectures on dental pathology, in his student days, he would hardly have made this humiliating mistake.

Medical colleges do not educate specialists; they but lay the foundation for general practice. This knowledge acquired, the practitioner may turn his attention to general practice or the specialty of his choice; and by the application of the principles first taught, he is supposed to become more than ordinarily skilled in the treatment of the particular class of diseases in his specialty.

With this idea in view, there is no more reason why we should have colleges for the teaching of the science involved in dental or oral surgery, independently of general medicine, than for general surgery.

One of the first requisites to success in the practice of any department of surgery or dentistry, is mechanical and executive talent. Without these a physician may be able to diagnosticate accurately and prescribe scientifically, but he can never succeed as an operator, either in dental or general surgery. But if he is educated in either of these specialties, without a general medical education, he is left no choice save to follow that branch for which he is educated, though he finds by experience that he has not the requisite talent to succeed in its practice. Many graduates of our dental colleges find themselves in this very unpleasant position. The result is, we have too many engaged in dental practice who, neither by taste nor talent, are fitted for it; and, lacking a medical education, they cannot engage in general practice. Properly educated, many of them would make excellent practitioners in medicine, but they are failures as dentists, as they would have been as surgeons.

The change advocated would give the student a chance for the exercise of his choice, ennabling him, after his regular

college course, to select the special branch for which he feels himself to be best adapted. If he chooses the specialty of dental and oral surgery, rather than to engage in the general practice of medicine, the teaching he has received should be supplemented by such clinical and other instruction as will best qualify him to engage in that department of practice. A medical education should embrace a general knowledge of all diseases to which the human organism is liable, and their treatment. Specialism includes this knowledge, to which is added careful and special study of the diseases and treatment that come within a given department of practice. A dental education, therefore, is a medical education, *plus* dental—or, special knowledge of the diseases and treatment of the teeth and oral cavity.

I therefore advocate the teaching in our medical colleges of the science of dental and oral surgery, not only that dental students may gain a broader medical education, but that medical students may be better informed regarding the diseases and treatment of the teeth. The signature of the professor or professors of dental and oral surgery should be considered as important upon the diploma of graduation as the signatures of the teachers in any other department.

At no previous time in the history of medicine in our country has the necessity for a fuller course of medical instruction become so apparent as the present; and it will not be long before a three-years course will be requisite to the respectable standing of any medical college with the profession. In making this change the fact should not be overlooked that their course cannot be complete without the teaching of the diseases and treatment of the teeth by properly educated and practical dental and oral surgeons.

With this broader and better medical education on the part of dental and oral surgeons, and a better knowledge of the nature and influence of the diseases of the teeth and mouth, and their proper treatment, on the part of medical men, there could be no valid objection to the establishment of a section in dental and oral surgery in the American Medical Association, upon an equal footing with any other department of medical science. The importance of this movement is being discussed among the most advanced

dental practitioners and the most comprehensive medical teachers. Sooner or later, this fuller and better education and condition must come, and the action of our medical colleges will largely determine whether its consummation will be hastened or retarded; but, though delayed, this ultimate result will obtain.

As America, less wedded to old ideas and practices than Europe, gave to practical dentistry its first great impulse, so, too, it may not be impossible that in this great Northwest, where advanced ideas more rapidly take root and expand, and new needs are more readily met, the first steps may be taken towards this desired end.

Having detained you longer than is customary on such occasions, with my thanks for your kind attention, and believing that some such plan as I have suggested for dental and medical instruction would be beneficial to the public, as well as those engaged in practice, I leave these thoughts for your consideration. If, perchance, what I have said should receive a greater audience than this presence, I ask for it considerate thought and a generous criticism.

ADVANCE IN THERAPEUTICS IN 1880.—New remedies many, a few good, many bad, most indifferent. Tonga valuable in facial neuralgia; sulphide of calcium in suppuration—its action marked and reliable, grain-doses now admitted; the nitrites of potassium and sodium have the action of amyl nitrite, but milder; ergot (again?) found useful in diabetes; pilocarpine useless in hydrophobia, which still defies all treatment; this last drug, tried in many directions, gave meager results; benzoate of soda commended in scarlet fever and gonorrhœal ophthalmia; salicylate of soda, according to Dr. Greenhow, mitigates but little the complications of rheumatic fever, while it may be a positive injury to the heart; salicin is inefficacious, while salicylate of quinia is highly praised by Dr. Hewan; the value of cold baths in typhoid fever has become more than doubtful.

Society Reports.

ARTICLE VII.

CHICAGO MEDICAL SOCIETY. Stated meeting March 7, 1881.

Dr. R. G. Bogue, President, in the chair. Drs. Henry P. Newman and Charles Krusemarck were elected members. Dr. R. Tilley exhibited the *Norton Attachment* to waste-water pipes. It presents the advantage of shutting, by means of a faucet, any communication between the waste-water pipe and the house. Dr. Tilley then demonstrated the worthlessness of common S traps, in which most of the water is syphoned off, as in Figure 1, the dark lines representing all that is left of the water, which soon evaporates and leaves a free entrance for the sewer gas.

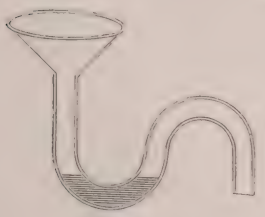


FIG. 1.

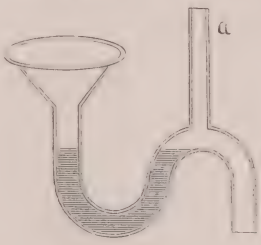


FIG. 2.

Figure 2 shows a contrivance of Dr. Tilley which allows a large quantity of water to remain in the S trap by means of atmospheric pressure through a communication with the outside air by the pipe *a*, which should be carried up to the roof of the house, and would thus ventilate the waste-water pipe. This arrangement had the preference of several members present, but, as Dr. Tilley remarked, it is best adapted to new buildings, and its introduction in old ones is somewhat expensive.

ARTICLE VIII.

WEST CHICAGO MEDICAL SOCIETY. Stated meeting held March 14, 1881.

Dr. I. N. Danforth, President *pro tempore*, in the chair. An interesting paper was read by Dr. Mary H. Thompson. It related to the case of a Swedish woman whose *os uteri* had been deeply lacerated in a first confinement. This seemed to have been the result of an unskillful use of the forceps, and it occasioned dysmenorrhœa afterward. After a third confinement, in the course of which the *os* had to be incised and the forceps used, she began to have convulsions, for which Dr. Thompson gave her bromide of potassium, and the tincture of chloride of iron. The condition of the mouth of the womb was observed, and the vaginal douche, together with the local application of the nitrate of silver, formed part of the treatment. But with the subsidence of the congestion of the neck, the body of the womb became retroverted. Convulsions returned after four months.

Dr. Thompson now operated for the lacerations, one of which extended up to the body of the womb, and it was not deemed prudent to carry the denudation to the bottom of the wound. It resulted in a partial union and a fistula. This was closed at a subsequent operation, and the uterus was also replaced. No convulsion returned.

Patient was confined November 26, 1880, at her tenth month. It was found that the neck of the womb was long and undilatable after a frequent recurrence of the labor pains. Dr. Thompson being called outside the city, Dr. Bartlett took charge of the case, and had Drs. Bogue and S. G. Clark in consultation. This proved a tedious labor. After the forces of the woman had begun to wane, they incised the *os*, introduced Simpson's forceps at the superior strait, and delivered the mother of a hydrocephalic child, who died soon afterward, but the woman made a good recovery. This case will be discussed at the next meeting.

A CONFERENCE BETWEEN DRUGGISTS AND PHYSICIANS.

The Chicago druggists responded to an invitation of the society in a large number. Mr. S. L. Coffin, President of the College of Pharmacy, read the proposed Pharmacy bill, and it was opened for discussion. The druggists want to repeal the amendment of the Legislature, giving physicians the same advantages as druggists in the compounding of prescriptions. Some of them wanted an entire separation of the two professions, at least in the cities; but the bill would apply to all the State, and there was the difficulty.

Mr. G. P. Englehard proposed that the society unite with the druggists to repeal the above-mentioned amendment, and pass resolutions on that point.

Dr. R. S. Hall, Secretary, remarked that the druggists had come, by invitation, to inform the medical society on the provisions of the bill, but not to settle the relations between physicians and druggists.

The duplicating of prescriptions was discussed by Mr. George Buck, Dr. Lyman and Dr. Twining. It seemed from their conclusions that it had grown into habit, and that a prescription is the property of a patient.

Dr. W. E. Clark, after stating the injustice of counter-prescribing, said that physicians had often to fall back on the old mode of furnishing remedies. That it was something very easy in our times, and that no medical college graduated a student in this country but was fully competent to compound medicines.

Dr. H. M. Lyman remarked that it would be very unjust to establish a law that would prevent the country physicians, and the Homœopathists as well, from dispensing their own remedies.

The most important point was reached when Dr. I. N. Danforth reproved the druggists for being all practitioners of medicine, and allowing their customers to call them doctors. Unless this was stopped the profession could not help them, and physicians would furnish their own remedies. Mr. A. G. Vogeler, R. H. Cowdrey and other druggists took part in the discussion. On the whole, the society thought the bill should be passed as it is, and amended afterward if that was proper.

The Secretary appointed Drs. Lyman, Clark and Twining a committee to report on such amendments after they had conferred with the Chicago College of Pharmacy. This report will be read at the next meeting, but the bill comes before the Legislature in a few days, and may be passed when the society meets the next time.

Dr. J. H. Tebbetts was elected a member. Through a mistake, his name was printed G. H. Peppitts in the March No. of the JOURNAL.

EPILEPSY AND CRIME.—In *Brain* quoted by London *Medical Record*, Dr. Clarke has published some very suggestive tables of statistics. He finds it hard to avoid the conclusion that alcoholism in the parents is a predisposing cause of crime and epilepsy. Forty-four per cent. of epileptic criminals were the children of drunken parents. With regard to the parents he finds that epilepsy is more frequent in the mother than in the father, and that the percentage for both parents is higher with the women than it is with the men. In drunkenness the reverse holds good. The proportion of epileptic and insane relatives is found to be very much greater with criminals than with ordinary epileptics. It has been asserted that "sexual desires show themselves early in the children of drunkards, and are associated with absence of moral sense." The author finds that the convictions for bastardy are three times as numerous among epileptics as among non-epileptics—a fact which strongly bears out his idea that epilepsy owes its origin to hereditary alcoholism. Other tables show that the amount of crime as indicated by the number of convictions is greater among epileptics than among ordinary criminals.—*Medical and Surgical Reporter.*

DR. EDMUND J. DOERING, late of the U. S. Marine Hospital service, and well known by his contributions to these pages to many of our readers, has resigned his position in the service. He has formed a copartnership with Dr. E. O. F. Roler, of this city, and expects next month to settle in Chicago. He will be welcomed by his old friends and will undoubtedly make many new ones.

Domestic Correspondence.

ARTICLE IX.

LETTER FROM IOWA.

EDITORS JOURNAL AND EXAMINER:—On Sunday, Oct. 17, 1880, a party of Russian immigrants, numbering about sixty, arrived in southeastern Dakota. When they reached Sioux City, Iowa, where there was a delay of two or three hours, one of the immigrants was very sick, some said with "ship fever;" others would have it small-pox. While waiting for a train, the unfortunate sick man was the center of an admiring crowd of the curious and inquisitive, who were freely allowed to approach and inspect him. The enlightened health officer of Sioux City, a town of 8,000 souls, did not isolate the man—did not detain him and give him Christian care, but sent him off as fast as possible, although the weather was bitingly cold. In this indecent haste to get rid of a seeming plague, the municipal authority concurred. The poor sick man proceeded in a crowded car, on his journey, of sixty-five miles, and reached Yankton, the capital of Dakota Territory, near which is a Russian settlement, only to die a few days after, but not until he had infected others; but as the cases were concealed and stoutly denied, I cannot give the number.

Either there was gross and culpable ignorance of the nature of the man's malady (he had variola in the vesicular stage), or cruel, criminal, shameful fear. Directly after the departure of the Russians from Sioux City, it was bruited the sick man really had small-pox. A public recommendation by the municipal authorities to get vaccinated, turned suspicion into reality, and then commenced a wild, unreasoning alarm, and a rush for vaccina-

tion. Every one wanted to be vaccinated immediately, while there was not enough vaccine virus on hand to vaccinate one-twentieth of the applicants. A brisk traffic in vaccine lymph suddenly started into existence, and people bought lymph, but scab by preference, anywhere and everywhere it could be found, and vaccinated themselves. A certain doctor (?) paid a house-to-house visitation, probably at the suggestion of the health officer, and vaccinated, for twenty-five cents each, all found willing to accept his proffered services. Out of the number vaccinated by this person and of those who vaccinated themselves, there was an unusually large percentage of cases of erysipelas and probably other forms of blood poisoning; and many an arm was rendered useless if not an encumbrance for months. People have learned by this time that they themselves and so-called doctors are not the best to practice vaccination; and many must long remember the small-pox scare in Sioux City, Iowa, during the winter of 1880–81.

A man who acted as interpreter to the Russians during their short stay in Sioux City, in due time manifested small-pox in the confluent form—he was entirely unvaccinated and perhaps ignorant of the nature of the disease from which the Russian suffered—and died within a few days. From this man others caught the infection; in particular one person, not susceptible, who acted as a carrier of the infection from Sioux City to Jefferson, D. T., a distance of fourteen miles, in very cold weather in the month of November, where the disease became epidemic chiefly among Canadian French and half-breeds. Every town in the vicinity of Jefferson, D. T., in Nebraska and in Iowa, set up a supposed rigid quarantine (the writer conversed with some of the quarantined in Sioux City), with a threat of $25 fine for any infringement of the same. No assistance, that I am aware of, was sent to the afflicted people. Two weeks ago the aforesaid twenty five cent doctor (?) was dispatched to the sorely tried community to inquire into the state of affairs, when it was supposed the disease, for want of further pabulum, had expended itself. A "*public meeting*"(*?*) was called at which no one from the infected families or houses was permitted to be present. It was concluded and publicly reported that the quarantine imposed no hardship, no want, no suffering, and this, remember, without affording the

quarantined, who alone can tell, an opportunity to say one word! It was recommended to raise the quarantine, because the last reported case of small-pox ended in death eleven days before, and three days before another case had had time to *positively declare itself*. This disciple of Æsculapius carried with him, and left behind for distribution among the afflicted, chloride of lime and muriatic acid, as disinfectants. But he did not enter a single infected house, only leaving these powerful chemicals to clear it of all further deadly germs!

In plain, sober, honest fact, during the prevalence of this epidemic the people among whom the disease prevailed were, like Robinson Crusoe, practically "out of humanity's reach," and it is not yet possible to say what hardships and sufferings they endured. Some bodies were left unburied for many days for want of persons to perform this last sad service, which should have been done immediately.

The returns show that 27 families were attacked, giving a total of 96 cases, with 22 deaths in the township of Jefferson, D. T., alone. There was terrible bungling from beginning to end of this epidemic. No effort was made to *stamp out* the disease which was left to *wear itself out*. A shameful, disgraceful dread was displayed everywhere by those who should do otherwise.

One more disgraceful matter remains to be noticed, and it is this: Why did railroad companies afford means of transportation to any one sick with such a highly infectious disease? And as far as the writer could discover, no disinfection whatever was practiced by the railroad officers—nothing done to protect persons from catching small-pox from *their cars* in which the sick Russian was permitted to travel! How many caught small-pox from those cars?

The idea prevails among people in this section of the country, as doubtless in other places, also, that "*varioloid*" is not small-pox. Persons suffering from the disease in this mild form were found walking about and freely mixing with their neighbors during the "*scabby stages*," in total ignorance of the risk to themselves and to others! That word "*varioloid*" is a term not only bad but unfortunate, and should be dropped without delay.

SIOUX CITY, March 1, 1881.

Article X.

To the Illinois State Board of Health:

Gentlemen—Your undersigned committee, appointed to report requirements of good standing for medical colleges, and conditions of complaint against medical colleges, respectfully report that the committee addressed to many leading members of the medical profession, and to the medical colleges of the Union, a circular, making the following inquiries:

1. In the present state of medical science and education in this country, what preparation is, and ought to be, required for admission to the lectures of a medical college to entitle it to good standing?

2. On what branches of medical and cognate science ought courses of lectures to be provided, and what length of course on each, to entitle the college to "good standing?"

3. What requirements as to full attendance, readings and quizzes, or other examinations, occasional or final, ought to be maintained in such colleges?

4. What attendance on lectures, as to time, number of terms or courses, and intervals between courses, are, or ought to be, required by such colleges as conditions of graduation?

5. What other conditions of graduation—such as hospital practice, or practice under preceptors, attendance on clinics and dissections—are, and ought to be, required for graduation?

To this circular eighty-seven replies were received from officers of medical colleges and medical societies and from eminent physicians. The medical colleges also promptly sent their annual announcements or circulars, and many other documents were furnished the committee touching the matters involved in their questions.

The letters, which are herewith presented to the Board, express much interest in the subject under discussion, and evince a deep and general desire for improvement in medical education in this country. It is evident that the members of the medical profession are ready to welcome and sustain all wise efforts to advance the standard and increase the thoroughness of medical

instruction. The committee regret that the proper limits of their report will not permit them to quote at length from the letters received.

The annexed tabular statement, drawn from the annual announcements, will show the present usages of the medical colleges in the several respects involved in our inquiries. The letters accompanying the announcements often express a desire and purpose to introduce reforms as soon as the concurrence of other colleges will permit. This is especially true in regard to the preparatory studies to be required of candidates for admission to the lecture courses. The failure to require adequate preparation before entering upon professional studies is doubtless one of the most serious and even fatal defects in American medical education. As students usually begin their studies with private preceptors, the remedy lies first with those who consent to act as such preceptors. Let them strenuously advise all candidates to make a liberal and thorough scholastic preparation, and refuse to receive any who are destitute of such preparation, and the reform would be well begun. But the failure of private preceptors to perform this obvious duty cannot exonerate medical colleges from the responsibilities which, by implication, they voluntarily assume. The committee are glad to report that so many of the leading medical colleges have now announced preliminary examinations as conditions of admission, in accordance with the vote of the American Medical College Association, that we are justified in including such examinations in our requirements of marks of "good standing."

After a careful comparison of the usages of the colleges, and of the opinions of the profession, the committee offers the following scheme of requirements, and recommends its formal adoption by the Board as its definition of the colleges whose diplomas shall be hereafter accepted by it:

MINIMUM REQUIREMENTS FOR A MEDICAL COLLEGE TO BE HELD IN "GOOD STANDING."

I. *Conditions of Admission* to lecture courses:

1. Credible certificates of good moral character.
2. Diploma of graduation from a good literary and scientific college, or high school; or, lacking this,

3. A thorough examination in the branches of a good English education, including Mathematics, English Composition and Elementary Physics or Natural Philosophy. This provision will not be required before the close of the lecture sessions of 1882–83.

II. *Branches of Medical Science* to be included in the course of instruction:

1. Anatomy.
2. Physiology.
3. Chemistry.
4. Materia Medica and Therapeutics.
5. Theory and Practice of Medicine.
6. Surgery.
7. Obstetrics and Gynæcology.
8. Hygiene and Sanitation.
9. Medical Jurisprudence.

III. *Length of Regular or Graduating Courses:*

1. The time occupied in the regular courses or sessions from which students are graduated shall not be less than five months, or twenty weeks, each.
2. Two full courses of lectures, not within one and the same year of time, shall be required for graduation with the degree of Doctor of Medicine.

IV. *Attendance and Examination*, or Quizzes:

1. Regular attendance during the entire lecture courses shall be required, allowance being made only for absences occasioned by the student's sickness, such absences not to exceed 20 per centum of the course.
2. Regular examinations, or quizzes, to be made by each lecturer or professor daily, or at least twice each week.
3. Final examinations on all branches to be conducted, when practicable, by other competent examiners than the professors in each branch.

V. *Dissections, Clinics and Hospital:*

1. Each student shall have dissected during two courses.
2. Attendance during at least two terms on clinical and hospital instruction shall be required.

VI. *Time of Professional Studies* before graduation shall not be less than three full years, including the time spent with a preceptor, attendance upon lectures or at clinics and in hospital.

VII. The college must show that it has a sufficient and competent corps of instructors, and the necessary facilities for teaching, dissections, clinics, etc.

REMARKS ON REQUIREMENTS.

It is a matter of regret that the Board is not at liberty to adopt the practice of the best and most advanced institutions as its standard. It can only express its desire to see improvements made as rapidly as the conditions of the colleges and the public sentiment will permit.

The addition of Latin, Botany and some other branches to the preliminary examinations ought to be made as early as is practicable.

The committee also would be glad to see other important specialties of medical science and art added to the courses of required education.

CLOSING REMARKS.

While submitting the above as the committee's conclusion upon the matter referred to them, we cannot refuse to express our concurrence in the general desire h ld by so many members of the medical profession for an early and large advance in the standards and courses of medical education in this country. Among the improvements most frequently suggested, and evidently of high importance, the committee note the following:

1. The requirement of adequate preparatory studies for admission to the lecture courses of the medical colleges. It is too shamefully true that at present many students are admitted to these lecture courses whose illiteracy prohibits their profiting by the instruction given, excepting in the narrowest limits, and precludes the possibility of their attaining such knowledge as the duties of their profession positively demand.

It would be well for the profession, and for the people, if none were accepted as students of medicine who had not graduated from a reputable college, or at least a good high school.

Natural talent and aptitude may go far toward fitting a man for any calling; but no talent can take the place of thorough education in a profession where such large fields of knowledge are to be mastered, and so many and such important judgments are to be constantly and promptly formed. Such a familiar knowledge of good English and of professional language as will enable the student to comprehend promptly and precisely the lectures to which he listens, seems too obvious a requirement to need argument, and such a knowledge cannot be gained save by years of training or extensive reading.

But it is not enough that the medical student shall merely comprehend what he hears; he must be able to weigh and judge for himself the importance of the facts, and the value of the theories which are offered.

There is a palpable absurdity in expecting to make skillful physicians of illiterate students by mere dint of reading them lectures, even when accompanied by quizzes and examinations. It is doubtful whether any examination of qualifications such as can be made at the crowded opening of a session can be relied upon to assure the requisite preparation for admission. The diploma of a high school, or, better still, of a college, would be far safer evidence of the candidate's fitness.

2. The committee heartily concur with the "American Medical College Association" in its statement that "An adequate medical education is such as gives to the student a fair practical knowledge of all the branches of medical science, and a mental discipline sufficient for the proper use of such knowledge in the practice of the medical art. A practical knowledge of these various branches necessitates demonstrative teaching and personal manipulation, which can be provided, in an adequate degree, in medical colleges only."

We would add to this obvious statement that the study of theories alone can produce nothing but theoretical knowledge. Practice only can teach practical knowledge. Abstract study may discipline the mind; but skill in any art or profession can be gained only by an actual performance of the duties of that profession. The laboratory, the dissecting-room, the clinic and the hospital practice know no substitutes. The student who does

not gain skill here must win it at the bedside of his patients, and often at a fearful cost.

3. The committee also concur in the claim of the American Medical Association that "Not less than three full years should be devoted to a diligent study of medicine before graduating or commencement of practice, and that at least one-half of each of these years should be spent in a proper medical college." It should be added, that a strict and regular attendance upon all the lectures should be required, and that the time professionally spent under a preceptor should be given honestly to close and earnest study.

Whoever will carefully consider the extent of the several branches of science to be mastered by the student of medicine will easily conclude that three full years will afford but scanty time for the work to be done. Indeed, it is doubtful whether any true scholar would attempt to do his work in such time without great hesitation. How inadequately it must be done, or rather how shamefully it must be neglected, by those who reduce their attendance on lectures by fully one-half, and waste in idleness their term of private study!

PHILADELPHIA SCHOOL OF ANATOMY.

4. Many of our medical colleges profess to require evidence of good moral character in their candidates. The committee are of the opinion that no requirement should be more rigidly enforced. To let loose upon the community, and into the midst of its confiding families, under the sacred name of "physician" persons of vicious habits and of immoral principles, is to send destruction where we would send healing. None but the purest and most upright can safely be trusted with the prerogative and opportunity of the family physician. The medical college offers insult and injury to mankind when it receives to its classes, or arms with its diplomas, men whose worthiness is not established by the amplest testimony.

While the Board have no authority to prescribe changes or improvements in our systems of medical education, the committee believe that we should be ready to recognize the efforts of the colleges themselves, or to advance our standard as fast or as far as the lead of these colleges will permit. No injustice is done to medical schools to require of them the highest possible

standard. Their honor and their true success will alike be promoted by it. We shall only fulfill our duty as a State Board of Health by promoting to the utmost that largest and most potential force in sanitary science and in public hygiene—a well-trained and thoroughly educated medical profession.

The committee ask further time to report on the other branch of inquiry referred to them: The regulations under which complaints will be received by the Board.

(Signed) JOHN M. GREGORY,
W. M. CHAMBERS,
JOHN H. RAUCH,
} *Committee.*

SPINAL BIFIDA TREATED WITH PLASTER OF PARIS.—Dr. Lewis A. Sayre, in a clinical lecture, says that the object of mechanical treatment is simply to protect the parts from all pressure and all possible injury until the process of ossification is completed throughout the entire length of the spinal column. This he accomplishes by first slipping over the trunk a tightly-fitting knit shirt, similar to that used in applying the plaster jacket in Pott's disease or lateral curvature. Then, having the patient held in a firm position, but without being suspended, he passes a few turns of a plaster bandage around the trunk and pelois in such a manner as to cover the spinal bifida completely. After this he cuts off a piece from both the top and bottom of the shirt, and turns the remaining portions over the part covered with plaster. He then makes a few more turns of the plaster bandage outside of all, and finally, before the plaster has had time to set, presses in the plaster with the hands on both sides of the tumor, so as to make the covering more cup-shaped, and thus protect it the more completely from all pressure. He then makes a hard, artificial roof for the spinal cord and nerves, which takes the place of the normal bony one until nature supplies the deficiency. If, on account of the child's growth, other similar plaster casings are required, they can be supplied in the same manner.—*Journal of Materia Medica.*

Reviews and Book Notices.

ARTICLE XI.—IMPERFECT HEARING AND THE HYGIENE OF THE EAR, INCLUDING NERVOUS SYMPTOMS, TINNITUS AURIUM, AURAL VERTIGO, DISEASES OF THE NASO-PHARYNGEAL MEMBRANE, MIDDLE EAR AND MASTOID REGION, WITH HOME INSTRUCTION OF THE DEAF. By LAURENCE TURNBULL, M.D., PH. G., etc. Third Edition, with illustrations. Philadelphia: J. P. Lippincott & Co.

In 1874 Dr. Laurence Turnbull, the well known aural surgeon of Philadelphia, published a little pamphlet on *Tinnitus Aurium*. So well was it received that in the following year a second edition had to be issued. And now the author presents to us what he calls a third edition. But title page and context have been changed so completely that we scarcely recognize the original *brochure* in this new book.

The volume opens with an excellent review of the recent progress of otology, and then discusses in a very able and entertaining manner the following subjects: 1, The limit of perception of musical tones by the human ear; 2, Tinnitus aurium; 3, Importance of treatment of the naso-pharyngeal space; 4, Artificial perforation of the membrana tympani; 5, Mastoid region and its diseases; 6, Hygiene of the apparatus of hearing, with the prevention of deafness; 7, Method of educating the deaf-mute at home; 8, Comparison between the audiphone and the various forms of ear trumpets.

A glance at this table of contents will satisfy the reader that the pages of this book are stores filled with valuable treasures; for the topics under discussion are of that high interest, scientifi-

cally and practically, that no intelligent physician can afford to be ignorant of them.

With reference to *tinnitus aurium* the author's view is defined in these remarks: "In the light of later experience, we could see no reason for changing our opinion that, in the great majority of cases, tinnitus aurium is by no means a sure indication of brain trouble, nor can it be frequently ascribed to congestion of the labyrinth, nor to auditory neuritis, except as an evidence of long continued irritation of the terminal filaments of the nerves; moreover, we had repeatedly proved that many of these cases are curable." He shows that the greater number of cases of tinnitus aurium result from some change in the external auditory meatus, membrana tympani, Eustachian tube or tympanic cavity.

In European journals we have recently read so much about *adenoid growths* in the naso-pharyngeal space that we were greatly surprised with reading this statement: "My opinion, since my return from Europe, is that the diseased condition of the post-nasal space termed 'adenoid growths' is not as frequent as it was supposed to be by Dr. Meyer, of Copenhagen, who was the first to draw attention to the disease, in a paper published in October, 1869. In the clinic of the University of Vienna, Dr. Gruber had no case on his list. I went to Paris and met Dr. Loewenberg in consultation. I most certainly thought this gentleman, who published an exhaustive treatise on the disease, would be able to show me a number of cases, but in three visits to him he was unable to show me a single case. Again when I went to Edinburgh I was most kindly invited to visit the ear clinic of the Edinburgh Royal Infirmary by the surgeon in charge, Dr. Kirk Duncanson, and was much interested in his cases, but he had no cases of this disease. In London, Dr. MacKenzie showed me every attention, and also gave me a note to his chief assistant, Dr. Mack Howell, who is medical officer and registrar of the Hospital for Diseases of the Throat and Chest, with its tens of thousands of cases, and in all their large number of instructive cases, of which I examined over one hundred, there was but one case of 'adenoid' disease in the hospital."

The chapter "The Mastoid Region and its Diseases," does not

compare very well with the other parts of the book. A concise statement of the present views concerning the indications for the operations upon the mastoid would, in our opinion, be more serviceable to the reader than the histories of numerous cases.

But so much more commendable is the next chapter on the "Hygiene of the Ear." "*Of all the injurious influences combined, none, however, are so hurtful to the integrity of the human ear as cold.*" If physicians would always bear this in their mind and preach it to their patrons, and especially to the mothers and nurses of children, there would be a great deal less ear trouble; for the frequent occurrence of earache in children is usually due to the ignorant carelessness in allowing children to go out of a warm room into the cold and damp air, without sufficient wrappings.

The author, also, refers to the injurious effect of smoking, and continued sonorous vibrations, as seen in the resulting deafness of locomotive engineers, boiler makers, telegraph operators, gunners, millers, and operators in factories. And he gives a series of plain and sound directions for the care of the ear in health and disease. For these, however, we must refer the reader to the book, for the limited space of this notice forbids their reproduction in these pages.

But we cannot conclude without quoting a few lines from the last chapter; for we believe that inasmuch as all the thundering about the "audiphone" proceeded from our city, it must be highly interesting to our readers to learn a careful observer's estimate of the comparative value of the audiphone and ear-trumpets: "All are now familiar with the name of 'Audiphone,' as its virtues were heralded by the press as a great boon to the deaf, and numberless publications, lectures, etc., have been sent broadcast over the land. * * * * Our unsuccessful experiments and trials with this agent in the case of the deaf mute have been already reported and published in a lecture before the class of Jefferson Medical College. Within the last month I have taken notes of a number, all intelligent and well educated persons who have had the opportunity of testing both means of relief to their deafness, and in all but a few cases the hearing trumpet, in some form, has been preferred. The result of our

experiments are as follows: In the ten cases of deafness only one was decidedly improved in the acuteness of his hearing by the audiphone, two were not benefited by either apparatus, while six were greatly improved by the various forms of the hearing-trumpet, and the one who could hear about as well with the one as with the other, preferred using the hearing-trumpet."

F. C. H.

ARTICLE XII.—A PRACTICAL TREATISE ON THE MEDICAL AND SURGICAL USES OF ELECTRICITY. INCLUDING: LOCALIZED AND GENERAL FARADIZATION; LOCALIZED AND CENTRAL GALVANIZATION; ELECTROLYSIS AND GALVANO-CAUTERY. By Geo. M. Beard, A.M., M.D., Fellow of the New York Academy of Medicine; of the New York Neurological Society, etc. A. D. Rockwell, A.M., M.D., Fellow of the New York Academy of Medicine; Electro-Therapeutist to the Woman's Hospital of the State of New York, etc. Third Edition. Revised by A. D. Rockwell, M.D. With nearly 200 Illustrations. 8vo, pp. 758. Cloth, $5.50. New York: William Wood & Co., 27 Great Jones St. 1881.

This work is above criticism. It forms a whole cyclopœdia of every principle and fact pertaining to electricity; such as its history, experiments, instruments, and medical uses. The book is divided into four parts: Electro-Physics, Electro-Physiology, Electro-Therapeutics, and Electro-Surgery. It contains a copious Glossary and an Index. But it is far above the reach of most students, and many practitioners, being particularly adapted for physicians who desire to make the treatment of diseases by electricity a specialty. The authors prove from an abundance of cases that electricity is one of the most valuable remedies, acting as a stimulant, a tonic, a sedative, or even as an anodyne, according to the manner in which it is used; and this point necessitates a great deal of knowledge and discrimination on the part of the medical attendant.

"In regard to the theory of Dr. Thomas W. Poole, of Lindsay, Canada, that electricity is essentially a paralyzing agent, and that its sedative and tonic effects are due to its paralyzing power, this may be said, that, granting for a moment the full

claim, it yet remains, that practically we do obtain from the use of electricity sedative and tonic effects similar to those which we obtain from a vast number of other remedial agencies." [Extract from preface to third edition.]

A. D. ROCKWELL.

Any reader who peruses this book will be convinced that electricity is too much neglected by the profession, that it is often ill-applied, and that it is adapted to many more diseases than most of us are aware of. It is handsomely printed and illustrated. Let us hope that the authors, or some one else, will give us a compendium of the work, which would do much toward generalizing the use of electricity. H. D. V.

ARTICLE XIII.—THE PATHOLOGY, DIAGNOSIS AND TREATMENT OF DISEASES OF WOMEN, INCLUDING THE DIAGNOSIS OF PREGNANCY. By Graily Hewitt, M.D., London, F.R.C.P.; Professor of Midwifery and Diseases of Women, University College, etc. Third American, from the Third London Edition, Revised and Enlarged. With 132 Illustrations. 8vo, pp. 75. Cloth, $4.00. Philadelphia: Lindsay & Blakiston. 1880.

"This New Edition of my Treatise on 'Diseases of Women' is substantially a new work." Preface to the Third Edition.

The expectations of students and practitioners will be liberally rewarded by a careful perusal of this book. The treatment is specially commendable, and will be found practicable by most physicians. Dr. Hewitt's views are broad, and he takes into consideration the results obtained by all the famous specialists now engaged in the treatment of female diseases, in England as well as in America. He has not the originality of Emmet, nor that of Thomas, but for most students this might as well be considered his chief advantage. Too much space consecrated to explain and exemplify one's peculiar views, is not desirable in medicine, which derives its value from so many sources. The chapter on the Diagnosis of Pregnancy is thorough and valuable. It is very appropriate in a work like this, especially since an operator two years ago in this country, made a Cæsarean section on a girl, pregnant for some months, with the intention of removing a tumor.

On page 454, line 25, we read: "In the vaginal mucus Donné found, on examination by the microscope, a number of *trichomonata*, which are oval, shaped like a pear or biscuit, and are from six lines to an inch and four lines long." This is a pretty large animalcule. I wonder why "Beigel has failed in finding them," as we read five lines below. The book is published in good style. H. D. V.

ARTICLE XIV.—THE RELATIONS OF GOITRE TO PREGNANCY AND DERANGEMENTS OF THE GENERATIVE ORGANS OF WOMEN. By Edward W. Jenks, M.D., LL.D., Chicago, Ill.

This is a very interesting paper of thirty-nine pages, reprinted from the *American Journal of Obstetrics*, etc., for January, 1881.

The author, after a thorough examination of the literature of the profession touching the subject of goitre, has brought together in these pages a full and instructive résumé of what has been observed concerning the relations of goitrous swellings and morbid growths to functional activity and derangements of the female organs of generation.

The author has also given due attention to the treatment of the various forms of trouble under consideration. His conclusions are as follows:

"CONCLUSIONS.

"1st. There is indisputable evidence that there may be endemic and occasionally epidemic causes producing goitre in men as well as women, yet the evidence is equally indisputable that every form of goitre occurs among the latter in a much larger proportion than among the former.

"2d. The fact has long been established that in certain occult conditions of women, increased vascularity and enlargement of the thyroid gland may be produced as a consequence of some unusual excitement of the generative organs.

"3d. Violent parturient efforts may cause the vascular form of goitre, but under the influence of pregnancy there may be gradual enlargement of the thyroid gland lasting for years; while, on the contrary, a goitre produced by one pregnancy is sometimes cured by a subsequent one.

"4th. There are reasons for believing that, when goitre is caused by any disorder of the generative organs (excepting pregnancy), it is due more commonly to functional than to structural disease.

"5th. It is not as a consequence of phlegmasias, or malignant diseases of the uterus or its annexes, that goitre is developed; on the contrary, the disorders which more commonly cause or precede goitre are fluxions, congestions, functional diseases of the pelvic organs, or those disorders of menstruation which are of systemic origin.

"6th. As many goitrous necks among women are due solely to some derangement of their generative organs, the use of topical applications or remedies, however administered, unless made use of to remedy the cause, will be of no avail, and constitutes irrational and unscientific treatment.

"7th. In the prognosis of goitre, we should always bear in mind the possible complications when the tumor is of considerable size; prominent among which are compression of the trachea, leading to dyspnœa, or even dysphagia, and compression of the recurrent laryngeal nerve, producing harshness of the voice, and sometimes aphonia.

"8th. When the goitre is not large and is manifestly dependent upon some derangement of menstruation, some functional uterine affection, or has suddenly developed in consequence of pregnancy or violent efforts in labor, the prognosis is favorable, although it is not certain that there will be a rapid disappearance of the deformity."

HYDROBROMATE OF MORPHIA.—Dr. Landrieux (*La France Médicale*) employs this salt in solution to 1-50th, and injects from 5 milligrammes to 1 and 2 centigrammes a day. More soluble than the hydrochlorate of morphia, it may be used in half doses, is more sedative, and does not give rise to the sort of purulent diathesis, frequent after repeated injections of hydrochlorate.

Editorial.

At the late banquet of the Alumni Association of Rush Medical College, it was expected that Dr. Allport would respond to the sentiment, "Dentistry and Dental Education, its Past, Present and Future as related to Medicine." The speakers on this occasion were however restricted in time to five minutes, and thus he was only able to give a brief synopsis of what he had intended to say, reserving his address in full for the transactions of the Association. We however anticipate this publication by presenting his address to our readers, in the present issue of the JOURNAL AND EXAMINER. That those who practice in the department of dentistry known as dental surgery, or the treatment of the natural teeth and their surroundings, should be medically educated and therefore regarded as special practitioners in medicine, can hardly be questioned. But that dental practitioners *not* medically educated should be admitted as medical practitioners, is scarcely debatable. The only door to the medical profession is through regularly constituted medical colleges; and we would suggest to our dental friends that the means for acquiring the highest scientific knowledge of their calling, should be found in these institutions. But it should be remembered that a full medical education has not been required or demanded of those about entering upon dental practice.

The suggestion that medical graduates should be better informed regarding this subject is worthy of consideration, and we do not see how the position taken by the doctor can be well controverted, for it is a fact, as said by the physician to whom he refers, that medical men "do not know much about the teeth." When a full medical education is demanded of those entering

upon the practice of dental and oral surgery (and the sooner it is demanded the better) we have no doubt that medical colleges will prepare themselves to meet the demand, and instruct not only as to the diseases incident to that portion of the body and the science of their treatment, but provide such clinical teaching as will best qualify the student to put his knowledge into practice.

The suggestion made that medically educated men who practice dental and oral surgery should be received in the American Medical Association on an equal footing with the practitioners in any other department of medicine and have assigned to them a section on dental and oral surgery, claims attention. When the demand is made we do not see why it should not meet with a response. This department of practice should advance so as to stand among the important specialties of medicine.

AROMATIC TETRACHLORIDE OF CARBON.—Tetrachloride of Carbon was brought into notice as an anæsthetic and sedative by Dr. Protheroe Smith, in a series of papers which appeared in the *Lancet* of May and June, 1867. It is a colorless, exceedingly volatile liquid, having a delicate odor not unlike that of quince. From Dr. Protheroe Smith's papers it appears that when inhaled this body is very effective in removing the pains of labor and of dysmenorrhœa, and that it has been extensively and successfully employed for headache, toothache, neuralgia, lumbago, and rheumatic pains, applied externally on American leather cloth. Dr. Protheroe Smith has found it very efficacious in the mitigation and cure of hay-fever. He usually prescribes a very purified and perfumed compound manufactured by Corbin & Company which he calls Aromatic Tetrachloride of Carbon, and for which there is is considerable demand. "This new sedative, to which Dr. Protheroe Smith called attention in the *Lancet* about ten years ago, is prepared in a very agreeable form by Messrs. Corbyn. It has an odor like that of quince, and is said to have been useful in removing the pains of labor and dysmenorrhœa, in hay-fever and in neuralgia."—*Lancet*, July 13, 1878.

Original Translations.

LATEST EXPERIMENTS WITH THE VIRUS OF HYDROPHOBIA. By BOULEY and PASTEUR.

Bouley says: I have often seen rabid rabbits live one, two, three, even four days. Sheep have become rabid after a period of incubation varying from seventeen to forty days. In rabbits, the usual length of the incubation is from twelve to eighteen days. It is reciprocally contagious by inoculation between the dog, the sheep, and the rabbit. These are my conclusions:

1. The virus of rabies exists only in the saliva, and in the mucous secretion of the buccal cavity; 2. The virus has proven effective after as long as ten days; 3. Under cultivation, the fluids used become crowded with bacteria, and the product of a third, fourth, or fifth cultivation (generation) has caused death in guinea-pigs, in eight, twelve, and twenty-two days. But hydrophobia could not be communicated from these to young dogs; 4. Rabies has been communicated by injecting hypodermically the diseased saliva into the pleural cavity, or into the sciatic nerve. Its ingestion, and its injection into the jugular vein, have been ineffectual; 5. Amputating the part inoculated, half an hour or more after the operation does not prevent the disease; 6. Fowls seem to enjoy an immunity from hydrophobia; 7. Injection of 3 or 4 cc. of diseased saliva into the cellular tissue has given rise to local troubles, and caused a quick septicæmia (?) which killed the dogs in four, five, or eight days; 8. In one case, rabies took place after a year's incubation, in a bitch which had been isolated.

Pasteur thus relates his discovery of a new disease allied to hydrophobia: A child died with hydrophobia December 11, 1880. Four hours after death, I scraped off some buccal mucus

with a brush, diluted it with water, and inoculated it immediately in two rabbits. These died about thirty-six hours after inoculation. Other rabbits were inoculated with the saliva. others with the blood, of the first rabbits. Death was still more rapid. A great many inoculations with the saliva, or with the blood of the diseased animals on other rabbits gave similar results. Inoculation with fresh blood caused death generally within the twenty-four hours. At the autopsy, the same lesions were constant in all of the cases. At the seat of punctures, on the abdomen, the venous system is rendered prominent. If death has been delayed, the cellular tissue in the neighborhood is injected with pus, and a new tissue, hard and purulent, forms adhesions between the skin and the abdominal muscles. A point worthy of remark is the swelling of the ganglia (lymphatics) on either side of the trachea, in the groin, and in the axilla, and their hæmorrhagic condition.

The cellular tissue in the groin, in the axilla, and at the points of inoculation, is generally œdematous. The lungs are frequently filled with apoplectic spots. A more constant result is the redness, congestion, and hæmorrhages in the smaller vessels of the trachea. The blood is more fluid, less liable to coagulate, is black, viscous, and resembles that of anthrax. As to the symptoms, anorexia promptly appears, coming as early as five or six hours after inoculation. Paralysis sets in, and the animal dies with asphyxia. The mouth is at times frothy after life has ceased. Whether death be the result of inoculation with the saliva, or the blood, the blood of the diseased animal is crowded with bacteria having highly interesting properties. Their shape is that of short cylinders, depressed at the middle, resembling somewhat a figure of 8, with a medium diameter not exceeding one-thousandth of a millimeter, and are surrounded with an areola of doubtful nature.

Experiments in cultivation have proven that the virulence exists in solutions of these organisms, after all foreign substances which might have adhered to the latter have been eliminated. These bacteria must no doubt be the true and only cause of the new disease. The blood of the dead child did not start any growth of bacteria in the solutions in which it was tried. The

bacteria in the solution are larger and hang together in the form of beads, but their shape does not differ from that of many other organisms. The solutions act like the blood, or the saliva, after they have been inoculated.

This is a new disease, caused by the presence of a new microscopical parasite, never investigated before this day, and this discovery is another achievement in the etiology of communicable diseases. The most remarkable peculiarity of the new virus is the following: Every one knows how near-related the guinea-pig is to the rabbit, as to anatomical structure, mode of living, and the facility with which it is susceptible of all the same diseases; but the inoculation with infected saliva has given rise to no serious symptoms in that animal as yet; but as only a few weeks have elapsed, they may yet appear.

The new disease differs from rabies in that it has no incubation as the latter. A valuable work by Prof. Galtier, of the Veterinary School of Lyon, states that: 1. Rabies communicated from dog to rabbit does not give rise to symptoms before from four to forty days after inoculation; 2. The dead rabbit presents no anatomical lesions resembling those above enumerated; 3. The blood from dead rabbits cannot communicate the disease.

I have inoculated the new disease in dogs which immediately became very sick, and most of them died in a few days, without the usual symptoms of rabies in the canine species. But why is not this new disease a form of rabies in dogs and rabbits, from humanized virus?

In order to prevent any error, we inoculated in rabbits, without any result, the saliva of asphyxiated rabbits, and that of human bodies dead of common diseases. In case hydrophobia could be referred to a microscopical organism, it would not exceed perhaps the present resources of science to discover means of attenuating the virus, and inoculating it, to impart immunity from hydrophobia, in men as well as in dogs.

The new disease has no connection with septicæmia, which, as we know, readily takes on guinea-pigs.

THE BACTERIUM OF DIPHTHERIA. A series of experiments made by Ch. Talamon, *ex-interne des hôpitaux*, and reported to the Anatomical Society, January, 1881.

Most of my experiments have been made with false membranes from patients in the service of Dr. Bergeron, Sainte-Eugénie Hospital. Thanks to his favors and those of his interne, Dr. Suss, I have been able to gather a certain number of false membranes detached from the tonsils, from the trachea, or expelled through the canula, after tracheotomy. I will simply mention here such cases as gave positive results, which are eight in number, all cases of infectious sore-throat, true diphtheria, either confined to the pharynx or extended to the larynx and trachea. There were two cases complicated with croup, and in both the false membrane cultivated had been taken from the trachea, and gave the same organism as false membranes from the tonsils. In one case of diphtheria, the first in which I discovered the bacterium now presented to you, I was able to follow the disease from its start till recovery. The patient was a man 20 years old, sleeping in the same room with a friend attacked with a malignant form of diphtheria, and he had a sore throat from the day on which the latter died. The day following, he came to the Hôtel-Dieu, and we were able to discover false membranes, greenish-gray, on both tonsils, and a marked swelling of the lymphatics. Every day I repeatedly cultivated these false membranes, and during the whole course of the disease, which lasted ten days, I constantly reproduced the same microscopical organism. After the membranes had disappeared, mucus from the back of the throat repeatedly cultivated gave no result.

This is the only case in which I was able to follow, day after day, the course of the disease. In the rest of the cases I took false membranes once from each. Here is the organism produced by the cultivation in each of the eight cases. It does not resemble the *zygodesmus fuscus* of Letzerich, which has never been seen since, not even by Letzerich himself, nor the *tilletia diphtherica*, which received the claims of the German author after he had given up the zygodesmus, nor the *microsporon* of Klebs, which bred but one micrococcus. It is a fungus easily seen and recognized, whose evolution I was able to observe and study in

every detail, either in the large partitioned cultivations or in damp cells.

After its evolution is completed, it appears under the shape of mycelia and characteristic spores. These mycelia sometimes appear as long tubes, partitioned from distance to distance, specially refracting the light, and generally very clear; they are from 2 to 4 and 5 thousandths of millimeters wide (m .000002 to .000005). When the fluids are well conditioned they stretch extremely, at times branch off, and these divisions are themselves peculiar; they form by their slightly incurved branches a figure best compared to a lyre or a tuning fork. At other times, the mycelia do not stretch in that way; although multiplying, so as to rapidly cover the surface of the liquid of cultivation, they remain short, take on odd shapes, the most common of which resembles a crutch; there is always present then a multitude of straight cylinders, 4 or 5 thousandths of millimeters wide by 15, 20 or 40 thousandths long (m .000004 by .000015 or .00004).

There are two kinds of spores—round or oval—which may be considered the spores of germination, and rectangular spores which represent the last phase of growth of the fungus, and which we will call *conidia* (*conidies*). These give the species its particular character; their shape is rectangular and their size very liable to vary; their width varies from m .000001 to .000008 and more; their length from m .000005 to .000015. Sometimes they are isolated, other times they are in groups of 2 or 3; often they form beads of 10, 12 or 15 individuals, or a small chain in zig-zag. Homogeneous at first, they soon become filled with small round bodies, very brilliant, the size of common micrococci, which appear to me as the true germ of the fungus.

The round or oval spores are what forms the mycelium by stretching; they look like bright specks m .000003 to .00005 in diameter, in the middle of granular matter, spread in sheets of greater or lesser extent, which represent what is called *zooglœa*. These spores stretch one of their poles so as to form a tube m .000002 to .000004 in diameter, which branches as above stated. When the lengthening of the mycelium is first begun, the space with its prolongation represents a tadpole.

In experimenting with bacteria, it is not sufficient to isolate, by

cultivation, the organism supposed to be the first cause of the disease. It is not sufficient that the organism should kill the animal experimented upon. One must—and here is the difficulty—reproduce, if possible, in an animal the disease referred to the organism, or at least prove, through a cultivation of the various organs, that the organism inoculated, and not septicæmia are accountable for the animal's death. Now, in spite of what some German authors affirm, no one as yet has been able to reproduce diphtheria. Letzerich and Klebs pretended having obtained it in rabbits: they killed rabbits indeed; one after injecting into them the *zygodesmus fuscus* during a first period, and the *tilletia* during the second; the other after inoculating them with the *microsporon;* but neither reproduced diphtheria, for neither of them reproduced false membranes, and the rapidity with which their rabbits died leads one to think that death resulted from nothing else than septicæmia.

I inoculated the bacteria first described, under the mucous membrane of the mouth and nose of, or gave it to eat to, six rabbits, two guinea-pigs, four frogs, a cock and four pigeons. The six rabbits died in the course of six, eight, ten, or eighteen days. The first died after six days with enormous swelling of the neck, to be compared with the œdema of diphtheria. It consisted in a serous infiltration of the cellular tissue, and a cultivation of the serum has reproduced the bacterium with characteristic *conidia.* The rabbit whose death occurred eighteen days after the ingestion of liquids containing the bacteria, had a double fibrinous pleuritis with effusion; the effused liquid as well as the false membranes reproduced through cultivation the inoculated organism. In all the rabbits, indeed, I found, sometimes with the help of the microscope alone, at other times through cultivation, the fungus always present in the serum of the peritoneal cavity, often in that of the pericardium, and also in the kidneys; but blood taken from the heart never reproduced the organism. The liquid would generally remain clear in that case, or common bacteria would be found.

Of the two guinea-pigs one alone died. I let three frogs swallow flocculi of mycelia two or three times; they died 8, 10 and 11 days after the last ingestion. They were, so to speak,

stuffed with the bacteria. Specially in the subcutaneous lymphatis and in the lymph duct, the organism had abundantly multiplied. Here again the peritoneal fluid has reproduced the bacteria in cultivations, while the blood taken from a heart yet beating gave no result; in another case bacteria were produced. Two of these frogs were rutting; the female's abdomen was full of spawn; the male's testicles were the size of small beans and full of sperm. The sperm and the spawn gave the diphtheritic bacterium under cultivation, in such a manner that had fecundation been possible, the tadpoles might have had at birth the germs of diphtheria.

The most marked lesion in frogs is in the stomach. The mucous membrane was covered with a thick layer of yellowish viscous mucus, consisting, when formed under the microscope, of epithelial cells, of granulations and drops of fat, of a multitude of micrococci, and of a certain number of rectangular *conidia*. The fourth frog had, besides, an intense inflammation of all the coats of the stomach, whose peritoneal aspect was covered with fine and recent false membranes.

I let the cock swallow some flocculi of mycelium. After eight days, as he did not seem to become sick, I desired to cool his temperature, and I left him with his legs in cold water during twenty-four hours, following the course of Pasteur for the refrigeration of hens sick with anthrax. His temperature effectually fell from 42° to 38° C. Unhappily the board on which the cock was retained slipped into the water and he drowned. On making the autopsy, I found the mucous membrane of the crop covered with a multitude of white specks the size of a lentil; these under the microscope were found to consist of epithelium filled with granulations, globules of fat, micrococci, and a great many rectangular spores.

Finally, I succeeded in reproducing false diphtheritic membranes in the four pigeons. After scratching deeply with the blade of a bistoury the surface of the mucous membrane, then smearing the solution over the abrasions, I noticed after twenty-four hours, a thick membrane coating both sides of the mouth, the tongue, *velum palati*, and the back of the throat; this false membrane was whitish yellow, and formed, like the false mem-

branes of the pharynx and of the tonsils in man, of epithelial cells, of fat, of cocci, and of bacteria; very few rectangular *conidia* were present, but under cultivation this membrane always reproduced the peculiar organism. I saw no fibrin. Two of the pigeons died after three days; one of them had false membranes around the opening of the larynx also, and its trachea was filled with a thick mucus whose cultivation reproduced the bacterium. The peritoneal and pericardial fluids and the kidneys reproduced it also under cultivation. But, as in the case of rabbits and frogs, the blood taken from the heart did not contain it, and the flasks sowed with it remained clear. The third pigeon recovered after eight days of sickness; the false membranes came off and he got well. The fourth is yet under observation. These various experiments present peculiarities on which I will insist later. My aim in this paper has been confined to prove that I had isolated a microscopical organism which has better claims than the *tilletia* of Letzerich, and the *microsporon* of Klebs, to be acknowledged as the cause of diphtheria, since it reproduces false membranes which these authors never produced.

"HUNTER took pupils, as formerly, into his house, as was then the custom all over England, and spent all the time he could snatch from his practice in the study of comparative anatomy and natural history, and in making preparations for his museum. His habit was to rise at four o'clock in the morning, to spend from four to five hours in his dissecting-rooms, and then to step into his carriage to make his daily rounds among his patients. He had no fondness for surgical practice or consultations, and attended to business only because it afforded him the means of purchasing objects of curiosity or of natural history, saying, as he laid aside his scalpel and forceps, 'Well, Lynn,' a pupil and an intimate friend, 'I must go and earn that d—d guinea, or I shall be sure to want it to-morrow.'"—*Dr. S. D. Gross.*

Selections.

THE POSITION THAT DENTAL AND ORAL SURGERY IS DESTINED TO OCCUPY IN AMERICA. By TRUMAN W. BROPHY, M.D., D.D.S., Clinical Lecturer on Dental and Oral Surgery in Central Free Dispensary, Rush Medical College, Chicago. (Read before the New York Odontological Society, February 15, 1881.)

The rapid advancement of the art and science of dental and oral surgery during the past quarter of a century has probably not been surpassed in the annals of history. The earnest, thoughtful, progressive practitioner, who loves his vocation and desires to aid in its advancement, cannot find another subject upon which his energies may be expended to such advantage as in laboring to elevate dentistry and place it before the whole world side by side with the other departments of art and science. What is dentistry, or —a better name,—dental and oral surgery, as recognized by the world to-day? (I say dental and oral surgery because the term more clearly represents, or indicates, the tissues upon which the educated dental surgeon is called on to operate.) By a few of the more intelligent it is, as it should be, accepted as a science as well as an art; but by the greater number of well-educated people, —people possessing extensive information on nearly all other subjects,—cultured people, some, indeed, who occupy prominent places in the learned professions,—men distinguished for their classical education and attainments,—really believe that the practitioner of dentistry is pursuing a menial vocation, and is simply an ordinary mechanic. Such being the views of some of the more intellectual, what may we expect from those who occupy less prominent places in society?

Let us look for a moment at the condition of dentistry in this

country and see if our friends are not, to some extent, at least, justified in their opinion of us. There are, in thirteen States, laws to regulate the practice of dentistry; in the other States, including Illinois, any one who so elects, even though he can neither read nor write, may place out a sign and enter upon its practice. So long as this condition of things is permitted to exist it is not reasonable to expect the laity to recognize dentistry as having any claim to the name of a profession or any part thereof, or to place it on a par with the universally-accepted learned professions of the world.

The work so well and faithfully performed by our eminent American dentists in conducting institutions of dental learning, as well as in establishing and successfully maintaining dental associations, has resulted in Americans justly receiving acknowledgments from the whole dental world as excelling in this department of art and science. Upon these men who have conscientiously labored, devoting their lives and fortunes to their efforts to advance a branch of science,—some of whom, owing to their assiduous exertions, now rest in untimely graves,—too much honor cannot be bestowed.

Notwithstanding the great advancement made in dentistry by the efforts of the energetic men who are and have been engaged in its practice, I cannot but think that the course so long pursued in regard to dental education and association falls far short of what it should be. There is no doubt that dental surgery is a specialty of medicine; and holding that belief, we should at once take steps to place our specialty side by side with other special branches of medical learning. Can this be accomplished? What shall we do to verify the clause which appears in the Code of Ethics of the American Dental Association, to wit, "Dental surgery is a specialty in medical science," etc., etc.? Can we secure for dental and oral surgery recognition as a medical specialty equal to that so universally accorded to ophthalmology, otology, gynæcology, etc.? Most certainly we can! Can it be done by establishing new societies of dental surgeons and admitting only men who are M. D.'s? Not by any means. While all credit should be given to the distinguished gentlemen of Boston,—doctors of medicine practicing dental and oral surgery,—who have wisely

formed "The Society for the Advancement of Oral Science," its good results will probably be largely of a local nature, though its influence may extend far beyond the city of Boston and become a stimulus to similar societies. It will be impossible to place the specialty of dental and oral surgery on a par with other medical specialties by organizing such societies, it matters not how eminent their members may be, how high their standard, or how exacting their requirements for admission to their ranks.

There is, undoubtedly, but one way by which dental and oral surgery can be placed in the position of equality with the other recognized medical specialties, and that is bringing it within the province of the American Medical Association, made up as it is of the most distinguished medical men upon the American continent; men, indeed, representing every State in this broad Union; men representing every specialty of the science of medicine except one. Who are these medical specialists that are so negligent as to suffer their specialty to be the only one without representation in this the highest medical association in their land? Who are these medical men who have not considered their specialty of sufficient importance to carry their banner to the front, and place it in line with those of other specialties? None others than the doctors of dental and oral surgery. Is this not true? And yet we claim to be medical specialists. I believe the time has come when we should cast off the scales from our eyes, realize our position as medical men, and immediately take steps to place our specialty where it belongs—in the American Medical Association. Warm friends will greet us there,—men whose names are familiar to every medical practitioner and student in every civilized nation of the earth. Such action will no doubt be taken in May next, at Richmond, Va., where the American Medical Association holds its next annual meeting; and when the section of dental and oral surgery is established, it will be the forerunner of a new era, in which dentistry in America will be elevated to a higher plane than it has heretofore attained. There will probably be opposition on the part of some of the members of the Medical Association to this procedure, but I am firm in the belief that this highly intelligent body will recognize the importance of such a section, and, therefore, receive us most cordially. We shall probably meet

with opposition from our dental friends, who will argue that we should stand by dentistry for what it is. They will also speak of the absurdity of placing dentistry where physicians and surgeons may, if they desire, enter upon its practice, even though they are ignorant of all the manipulations so essential to a competent dental operator. To such arguments—and as many more as our friends deem advisable to enter into—we shall answer at the next meeting of the American Dental Association, which will occur in New York City the coming August.

Placing dental and oral surgery in a position where the whole world must accept it as a department of medicine, will make it a more exalted vocation, and a greater number of men of higher intellectuality will be found in our ranks than would ever come under the present *régime*. It will add a new impetus to thought and investigation. It will be an incentive to young men who aim to be thoroughly qualified to practice dentistry, to educate themselves as doctors of medicine in conjunction with their dental training. With this accomplished we shall be accepted as medical men practicing a specialty of medicine. We shall no longer be erroneously called the "dental profession," any more than ophthalmologists should be said to belong to the ophthalmological profession or dermatologists to the dermatological profession; but we shall, in common with the others, be medical men,—doctors of medicine with all the title implies,—practicing a specialty thereof not second in importance to any.

The plan here proposed, and which will in all probability be carried out, is as follows: All regular physicians practicing dental and oral surgery are requested, if they are in sympathy with this movement, to join their county medical society (if they are not already members), get their credentials to the American Medical Association, to go Richmond, Va., where it convenes in May next, when a section on dental and oral surgery will be organized, and application be made to the Association for admission. If there be any prominent member opposed to this course, I have neither seen him nor heard from him. I have in my possession letters, in answer to mine, from some of the most distinguished members, requesting their views of the scheme, containing such expressions as follows: "I wonder why this was not done long ago." "Dental

surgery is as much a department of medicine as ophthalmology, and consequently should have representatives in the American Medical Association, *provided they are medical men.*" "I am glad to see that you have at last realized what you are, and are now ready to do your duty, as you have expressed it to me, and return home to your mother who gave you birth."

I might quote pages from eminent men engaged in general practice, as well as from those engaged in all the specialties, including ours, but these I have given are fair samples of the whole number. That I may not be misunderstood, I wish to say that the American Association is, and probably always will be, the only truly national association of dentists in this country, and it is indeed a high honor to any dentist to hold membership therein.

The time will doubtless come when every member of this association will be a medical man,—an M.D. An impression must not go out to the effect that we are in the least dissatisfied with the American Dental Association. Not so by any means. The grand work achieved by that body will adorn the pages of the history of dentistry many years after our children's children have passed away, and other minds are grappling with and endeavoring to solve the great and ever-absorbing problem of professional advancement.

While a large majority of its members are not medical men, we shall feel that it holds a position corresponding to that occupied by the American Gynæcological Association, the American Dermatological Association, etc.; but, like these latter associations, we, too, should have members of our specialty in the American Medical Association, the *only* great national association for all medical practitioners, either general or special.

Injustice would be done to ourselves if this paper were concluded without claiming that we shall impart much information to our associates in other departments of medical science, and furnish them with valuable papers upon the *most prevalent* of *all* diseases,—diseases which lead to more suffering than any others known to civilized man,—diseases, indeed, the etiology of which the general practitioner has studied but little, for want of time, but which not infrequently originating in distant organs of the body, manifest themselves in the teeth or maxilla, and *vice versa*.

The facial neuralgias which prevail to such an extent are largely due to dental lesions, and too often irretrievable losses have been sustained by patients without just cause.

It is for these, with other reasons previously stated herein, that a section should be formed on dental and oral surgery in the American Medical Association. No one can justly claim that the American Medical Association conflicts in any way with the good work accomplished by the American Dermatological Association, or the American Ophthalmological Association, or other associations whose work is upon special subjects pertaining to the science of medicine.

Such will be the relation of the American Medical Association to the American Dental Association. Working together hand in hand in one common cause, with one motive, we shall go forward, mutually acquiring that knowledge which will make us better, and enable us to stand before the world conscious of having used our combined talents to the extent of our ability to advance the most noble of all professions,—whose existence is dedicated to the alleviation of human suffering and the promotion of the happiness of man.—*Dental Cosmos*, March, 1881.

The Scotch Introductory Addresses—By S. D. Campbell Black.

If we discard the technical introductory addresses recently delivered in the Scotch Universities by one or two of the professors, such as those of Professor Cleland and Charteris at Glasgow, and Professor Turner at Edinburgh, it is remarkable with what unanimity the other professors assailed—and it is significant of the times—what they are pleased to term, and vexed evidently to recognize as, the materialistic and rationalistic current of popular opinion at present. As a matter of course two of the clearest thinkers and most elegant writers of the day, Huxley and Spencer, came in for a fair share of attention, and the customary vituperation. Now this a matter which falls quite competently within the domain of the physician—particularly of the medical psychologist—especially as the proneness of medical men to scepticism, if

not absolute Atheism, is unjustly proverbial, and is accepted as merited in quarters where we should not have anticipated it. The church in Scotland, and those immediately dependent on the perpetuation of ecclesiasticism, are profoundly agitated at present in endeavors to reconcile their means of living with the dawning intelligence of the multitude, and the perplexities of many are rendered still more inextricable by the ingenuity which education commands, and is not slow to employ in this process of reconciliation. It is too well known to practitioners of medicine to what a painful extent mental aberration is due to religious perplexity of some kind or another, and it is much to be doubted whether the well-meaning attempts alluded to are calculated to obviate this contingency. The question presents, Is it not compatible with a happy and useful existence—with even a Godly existence—to cast aside that which in the nature of things lies of necessity beyond the domain of sense and reason, which is, therefore, thus incomprehensible, and of which no amount of empty and high-sounding talk will ever enable humanity, as at present constituted, to take cognizance? Are there not thousands of men and women, too, of of spotless reputation who do this, and avow it; and as many who secretly think thus, but whose avowal thereof is restrained by social considerations, or false and pusillanimous notions of propriety? For too long a time mythology and morality have been regarded as inseparable. It were well if people reflected a little more that the ultimate tribunal to which all our knowledge is referable is that of *human observation and experience*, and all our conceptions of the external world (and we can have no other) are appreciated alone through the medium of our senses. If this undoubted and unassailable position were more frequently kept in view, from what an amount of inconsequent and illogical rubbish would society be exempt. Professor Blackie, of Edinburgh, is a versatile man, a good linguist, an indifferent rhymer, and, in his own opinion, at least, an authority on most subjects. In an address, on the occasion of the the opening of his class, "On Science and Literature in their Relation to Culture," he indulged in the now customary fling at Huxley and physical science, with what success a quotation or two from his address will show: "Whatever discoveries may have been made with regard to the

composition of Professor Huxley's favorite primordial substance called protoplasm, or the special functions of this or that convolution of the brain, or the missing link between any type of curious buckler-headed fishes in the Devonian bed, and the rich crop of tadpoles and toads in the Triassic strata, it will remain an impossibility that any science which concerns itself chiefly with the shell or pulp of inferior organisms divorced from vitality can be so interesting to human beings as the soul of living man. For it lies in the very nature of physical science that it occupies itself principally with things from which life is gone, or, at least, which cannot be examined when the living processes are in a complete state of normal exercise." . . . "God is life and God is love. Of this prime source of all human greatness mere physical science can teach nothing." Professor Blackie is inexcusably in error in thinking that physical science takes not equally, if not greater cognizance of the living than of the dead organism. It sees in the living the completion and the perfection of organization; from the dead it deduces conclusions as to the living within the domain of sense and reason, and in harmony, as already stated, with human observation and experience. Further it does not pretend to go, and with as much ardor and reverence as professor Blackie, it regards, in the best sense of the term, the proper study of mankind to be man. That which physical science regards as the sum of the phenomena of healthy cerebration, the "Modern Athenian" maintains to be a distinct entity, whose study is to be specially relegated to what he calls "moral science," "the science directly of the living man;" and this science, according to him, "is known not by peeping microscopes or far-sweeping telescopes." The interdependence of the *mens sana* on the *corpus sanum* duly acknowledged by his ancient friends, is at least inferentially ignored by the learned Professor. Physical science embraces the study of men, animals, and Nature as a whole—their attributes as well as their material. Blackie's "moral science" comprehends but the cerebral manifestations of man. Professor Blackie affects a fondness for "exact definition;" would the learned gentleman oblige us by an exact definition of his "soul," or "mind," which we hope we are not wrong in assuming to be synonymous terms? Will he put into understandable English any idea which is not a material

reflection, so to speak, *primarily* conveyed to the cerebrum through educated sense? If any one assert that the sun is inhabited by human beings similar to those which inhabit this planet, we naturally smile at the innocence of the statement, and ask the proof thereof, sceptical of its being forthcoming, as being a violation of reason and experience; for with the exception of three ancient Hebrews, into the salamander composition of whose bodies we do not stop to inquire at present, the surrounding medium of fire is not *usually* compatible with the existence of organized vital structure. The *onus probandi*, therefore, lies with him who makes any statement which violates reason and sense. The special beverage of his friend the Celt, as the Professor may be assumed fairly to understand, possesses a singular disturbing influence on cerebral circulation, *pari passu*, it effects the soul, or mental functions; even the Professor has been known to sing, if not to dance, in presence of this "holy ecstacy;" it may be pushed so far as to cause coma, from which recovery may take place, but during this state the mental functions are in complete abeyance—the mind has been a complete blank. Should the molecular changes caused in the brain by the circulation of blood, and of which thought is the expression, be permanently arrested, and its organic structure become a prey to decomposing chemical changes, what has become of the mental phenomena, and what proof have we of their existence apart from vitality? These are questions not to be shirked, or ruthlessly pushed aside by anyone owning a philosophic allegiance to truth.

The colleague of the learned Professsor of Greek, Professor Charteris (Edinburgh), from his coign of vantage, leveled his ecclesiastical thunderbolts at "Rationalism as Antagonistic to Christianity." By "rationalism," he understood "the doctrine or the tendency of those who admitted nothing they could not understand or at least clearly reconcile with reason." The definition is not a fair one. The rationalist is on every hand surrounded by mysteries hidden deep in the bosom of Nature, whose existence is to him indisputable, but which unaided sense fails him in unraveling. The tiny seed, he knows, retains its vitality for thousands of years; of this he has proof afforded by the evidence of his senses; and he believes that, from the dawn of time, the gigantic heavenly spheres

observe their magnificent course with a regularity and grandeur whose contemplation prostrates his highest aspirations in the dust. These things he cannot understand; he knows they exist; he can formulate no reasonable solution of their genesis nor maintainance, but he is content to know, and humbly to feel, his ignorance, rather than create any theory which would violate his cultivated reason. Professor Charteris indicated the common possession of this "dreadful materialism" and Christianity, ingeniously claiming for the latter a "reverence for facts," and adding that "it would be a bad day for Christianity when it ceased to claim that as its distinction, amid the many forms of faith and unbelief to which men adhered." It is no business of ours to contend with the amiable professor on this subject; but tried by the standard above submitted, and a "reverence for facts," we would be curious to learn in what form Christianity would present after having undergone the ordeal. Religion without a reasonable basis, Professor Charteris seems to admit to be worthless; and there is no avoiding the conclusion, faith without some show of reason is simple superstition.

What concerns us as medical practitioners is the care of many of unstable mental equilibrium rendered unfit for their duty to themselves and to society by vain and hopeless striving to comprehend mysteries in religion unfathomable, and in Nature incomprehensible. Is it not compatible with their well-being, and our duty to society that we enjoin, at least, a suspense of judgment on questions beyond the domain of sense and reason; inculcate the beauty of morality, and the manliness af truth; the seeking of good for its own sake, and the shunning of evil as incompatible with a happy and useful existence; and to impress upon such as are thus influenced that it were an outrage on Deity that he can be the Nemesis depicted, especially from Scotch pulpits.

THE THERMOGRAPH—ITS EVOLUTION AND DESTINY. By A. WELLINGTON ADAMS, M. D.

The introduction or application to medical science of no one instrument has afforded a more forcible impetus toward the goal of perfection, and the establishment of an exact science, than has the ushering in of the thermometer by Sanctorious, and subsequently the foundation, by de Haen, of medical thermometry.

And as the mind reviews and takes cognizance of the successively progressive steps constituting its history, from its inception to its present stage of development, one is compelled to look forward to disclosures far transcending present realizations.

Hence I was led, in the early part of 1879, to conclude that, notwithstanding the present degree of perfection in the science of medical thermometry, and the important function already performed by the thermometer in clinical, diagnostic, prognostic and experimental medicine, there was yet still further room for improvement. And, in fact, a palpable need for a more delicate and accurate thermometric system as an auxiliary to physiological, therapeutical and pathological investigations.

At present the office and usefulness of the system is sadly limited by its imperfections and narrow range of application. There are, no doubt, a few who will, upon first impulse, stamp this as a bold assertion, tending to depreciate the value of this most important aid to modern therapeutics, and, indeed, to all branches of scientific medicine. Such a *petitio principii* cannot, however, for one moment be allowed, since it must be acknowledged by all, that with existing appliances we are but able to ascertain the morning and evening minimum and maximum of temperature, regardless of the momentary or even hourly remissions and exacerbations of minor waves which fall within these, as it were, medium tidal points. By this latter expression I would have you understand me as referring to the points representing the morning and evening thermometric observations, A A A, fig. 1.

Now, a visual revelation of these constant thermal changes would, even with our present degree of knowledge concerning the

pathognomonic character of certain thermal phenomena, be of incalculable value, and, therefore, a consummation to be devoutly sought for. But, outside of the advantages accruing from the application of existing knowledge to these observations, the anticipation of new developments and additional advantages resulting therefrom, becomes extremely plausible and justifiable; for it is as probable as it is possible that these momentary perturbations or minor waves, of which we as yet know almost nothing, are also conformable to law; forming, in different diseases, and under the administration of various drugs, characteristics quite as significant as do these medium waves, if I may be allowed the expression, when looked at collectively as preserved for a consecutive number of days.

From the results of these observations, taken, according to the present method, at comparatively irregular intervals, we can crudely construct a major wave, B B, fig. 1, analogous to the now so-called "fever curve," which may after a week or so prove characteristic of some peculiar form of the exanthemata, which we have become accustomed to recognize by comparison with a typical curve or major wave, whose conformation depends upon the position of these medium tidal points—that is to say, the points recording the morning and evening thermometric observations taken each successive day from the stage of pyrogenesis to that of defervescence.

I, therefore, concluded that in order to render the system more perfect and extend its range of application, it would be necessary to devise some means for procuring a thermometric record which should represent the *constant* condition of the subject under experimentation or treatment, for any desired length of time; this record to assume the form of a continuous curve automatically inscribed *pari passu* with the development of the disease.

This, of course, I found impracticable with the instruments already at the command of the profession. A solution of the problem, then, evidently depended upon the invention of an instrument capable of fulfilling these requirements. No sooner did this proposition present itself than I began to turn my attention in that direction. And is it to be wondered at, that in looking for the *principia* upon which would depend the construction of

such an instrument, I should follow the footsteps of Breschet and Becquerel, who laid the corner-stone of the science by the aid of delicate thermo-electric apparatus? On the contrary, it is quite natural, that in looking for further boon, I should turn toward that force which has already been the means of marvelously facilitating commercial intercourse—of conferring upon man untold benefits of general application and lasting endurance—and of heaping upon science and its unfolders immeasurable *éclat*.

Having already given much attention to experimental electricity and acoustics, as bearing upon otology and laryngology, I was peculiarly and specially prepared, both as regards practical or detail knowledge, and the possession of suitable apparatus, to undertake the solution of so trying and complex a problem.

So, after adding to my laboratory much improvised paraphernalia for experimental research, I began operations, which, as before intimated, at first lay in the direction of thermo-electricity; to which principle I ascribed the ability to meet the requirements indicated in the first steps, *i. e.*, the contriving that portion of the embryo instrument capable of perceiving and responding physically to all variations in temperature with which it might be brought in contact, be they ever so slight. And, as regards this specific property, I was not in the least disappointed as to the inherent power of this principle; for, I procured several cylindrical tubes of antimony and bismuth, 3-16 of an inch in external diameter, and cutting them up into segments one-quarter of an inch long, then soldered these pieces together in alternate order, and lastly bent the whole into a spiral one-inch in diameter, to each end of which was attached a copper wire—one being fastened to a segment of bismuth at one end, and the other to one of antimony at the opposite end. I had then an instrument (see fig. 2) which would, when placed in the axilla, and the terminal wires connected with the binding posts of a differential galvanometer, give evidence, through the varying deflections of the galvanometer needle, of the most minute and transient thermal fluctuations.

This, however, was not the only indication to be met. There was the recording part yet to be constructed, and that necessarily must bear a certain relationship to the thermometer proper.

In the device described above and figured in illustration No. 2,

there were generated thermo-electric impulses sufficiently strong to induce an extensive range of deflections in a sensitive galvanometer, but entirely too weak to manifest themselves in any more crude manner; while, of course, the delicacy of the galvanometer rendered impossible the application of mechanical appliances for graphically recording deviations; for it must be borne in mind that with the graphic method, the first essential is a surface traveling in a straight line at a uniform rate of speed; this may be accomplished after any of the known methods. The second essential consists in the provision of an automatic writer for inscribing the record upon said surface. This, as is generally the case, may be effected by means of a delicate lever, having attached to its longer extremity a marker so arranged as to move backward and forward over the traveling surface. When the lever is quiescent and the movable surface in motion, a horizontal line is made, known as the *abscissa*. This signifies time, and all deviations from this line are called *ordinates*. These may vary in direction, from the vertical, to any degree of obliquity, according as the impingements upon the shorter end of the lever, which give rise to them, are abrupt or sluggish.

It will readily be seen, then, that with the addition of these pieces of mechanism, we have a commensurate amount of friction to contend with, and in order to overcome this, our electric impulses must be stronger than could be generated by the small antimony and bismuth spiral seen in fig. 2.

Not in the least daunted, however, by the dissipation of all hopes in this direction, I still continued my researches, fully believing that even many more failures were in store for me, as the *res necessariæ* to the proper evolution of a successful issue.

Experience seemed now to clearly indicate a necessity for a definite source from which to derive a constant and unvarying supply of electricity, of sufficient strength to undergo a mechanical metamorphosis equal to our requirements. This current, however generated, should be moulded into electrical waves corresponding to the thermotic changes, through the introduction, at any given point in the circuit, of some physical or chemico-physical device capable of accomplishing the same. To effect this, the instrument illustrated in fig. 3 was constructed. This consists virtually

of an ordinary thermometer made of vulcanite and bent into a spiral. For convenience of illustration this shape is not shown in the cut. The bulb was lined with a silver film in electrical communication with the lower binding-post, A. Up both sides of the shaft B, and at right angles to its axis, minute channels were drilled at uniform distances from each other, and leading into the shaft bore. These channels, instead of being placed opposite each other, were arranged one above the other, *e. g.*, the first one on the right hand side (C) being placed 1-32 of an inch from the first one on the left hand side (D), while the *second* one on the right hand side (E) was placed 1-16 of an inch from C, and 1-32 of an inch from D; and so on throughout the entire series. The shaft-bore was now temporarily filled with a wire of corresponding caliber, and the aforesaid channels filled with melted platinum. A No. 36 silk-covered copper wire was next soldered to the first platinum *fibrillus* (C), and then coiled several times around the shaft (B), finally to be soldered at its terminal extremity to the platinum *fibrillus* (D). Another corresponding piece of wire of like length, caliber, etc., was soldered to the platinum *fibrillus* (D), and now an equal number of lamillar convolutions made around the shaft (B), and its terminus soldered to the platinum *fibrillus* (E). When all these *fibrilli* were treated in like manner, and the last wire in the series connected with binding-post (F), a vacuum formed, and the mercury inserted in the bulb, the instrument was complete, and only awaited a trial to prove its efficacy or inefficiency, as the case might be. To an electrician the *modus operandi* of this apparatus becomes at once apparent. The binding-posts A and F being placed in an electric circuit and the thermometer bulb subjected to thermal variations—the instrument is in operation. Each of the above described coils of wire goes to form a series of "resistance coils," and any number of these are introduced into the circuit or "short-circuited"—that is, cut out, and the strength of the current thus diminished or increased, by the rising and falling of the column of mercury. For, when the column of mercury rises to the first platinum *fibrillus* (C), the electric current will pass from the binding-post (A) through the column of mercury to the first platinum *fibrillus* (C), and thence through all the "resistance

coils" to emerge at the binding-post (F), on its way to complete the circuit. If, however, the column of mercury rises to the *fibrillus* (D), the first "resistance coil" is short-circuited, and the current is obliged to pass through the remaining coils *only*. Thus the resistance is diminished a certain number of ohms and the current accordingly strengthened a relative amount of volts. This instrument was experimentally a complete success, inasmuch as with it there could be produced electrical impulses varying in intensity in accordance with the character of the temperature changes brought in contact with it. Moreover, the current designed to be thus moulded into waves could have any desired electro-motive force, and this, as before explained, was a *sine quâ non*.

When it came to the question of a practical application, though, this instrument, also seemed to be deficient in many respects. The principal defect lay in the fact that the electric waves were not *always* in exact relationship with the thermometric indications. For, supposing the column of mercury to have reached a point half-way between C and D, the electricity would then meet with a resistance equal to that offered when the column stood no higher than C, hence we should have no increased strength in the current to mark this difference in temperature. Another thing rendering it somewhat impracticable, was its complicated nature and expensiveness.

My researches now remained in *statu quo* for some time, when one day, in the course of conversation with Dr. J. Harry Thompson, of Washington, D. C., he suggested the utilization of the newly discovered property of carbon to vary its conductivity under different degrees of pressure.

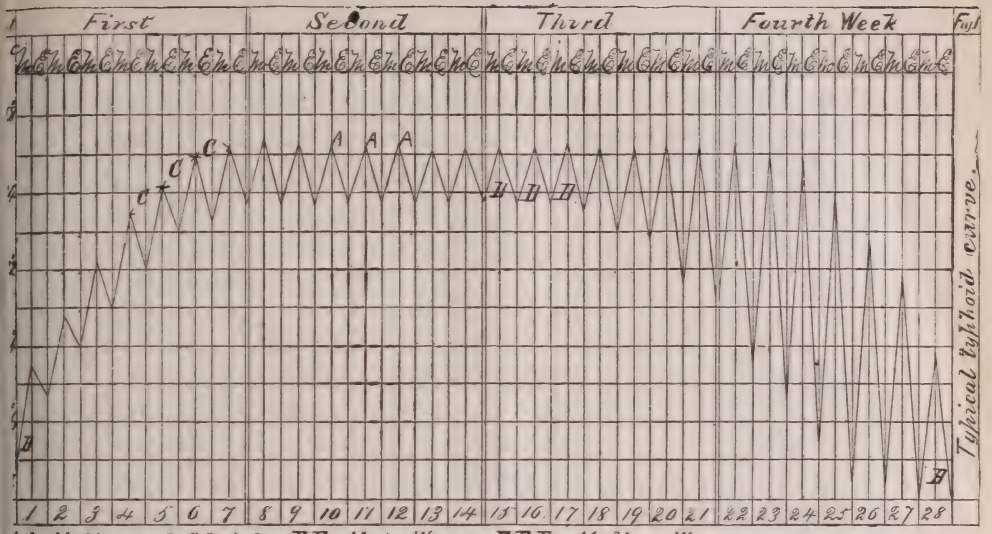
I immediately availed myself of this suggestion, developing the instrument as now perfected and illustrated in figs. 4 and 5. This is the thermometer proper or responding portion of the instrument, and consists of a spiral spring made of two *lamellæ* of brass and steel respectively, soldered together, the brass occupying the outer side. Of course this spring expands uniformly with equal increments of heat, and the brass, the most expansible of the two metals, will, upon a rise of temperature, give the platinum knob (a), attached to the free end of the spring, a concentric

twist. In this way we produce a varying pressure upon the contents of the vulcanite tube (T), against which the platinum knob (a) impinges.

The other end of the substance contained in the hard-rubber tube (T) has for its abutment the platinum knob (b) attached to the hard-rubber bracket (C). The whole, as seen in fig. 4, is inclosed in a perforated German-silver case, with rounded edges, and having an external diameter of but $1\frac{1}{4}$ inches.

The binding-post (A), fig. 4, is in electrical communication with the platinum knob (a), and the binding-post (B) is in electrical communication with the platinum knob (b). When the apparatus is introduced into an electric circuit, by attaching the two poles to the two binding-posts, the current enters through one and emerges at the other, passing in its course, through the substance in the vulcanite tube (T). The two little handles (H) (H) are intended as a means of securing the instrument in its proper position in the axilla. The composition used in the vulcanite tube (T) may be either a solid stick of baked lamp-black, a series of carbon discs with intervening ones of silver, or a powder made of plumbago, gas-carbon and silver, finely divided. After receiving a communication from Thos. A. Edison in regard to this matter, I commenced a series of experiments to determine the most suitable composition for this purpose, and the best results were obtained from the powder already referred to. The salient feature of this instrument is the changing of its electrical resistance with pressure, and the ratio of these changes, moreover, corresponding exactly with the pressure, the latter, in turn, being dependent upon and in unison with the rise and fall of temperature.

Here, then, was the true solution, for, by subjecting this instrument to varying degrees of temperature, the resistance of the powder would vary in precise accordance with the pressure exerted by the uniform expansion of the spiral spring under equal increments of heat, and consequently a proportionate variation would be produced in the strength of the current. The latter would thus possess all the characteristics of the heat waves, and by its reaction through the medium of some electro-magnetic piece of mechanism yet to be devised, these might be transferred to our



Typical typhoid curve.

A.A.-Medium tidal points. B.B.-Major Wave. D.D.D.-Medium Waves.
C.C.C.-Intervals in which the minor waves occur.

Fig. 2.

Fig. 4.

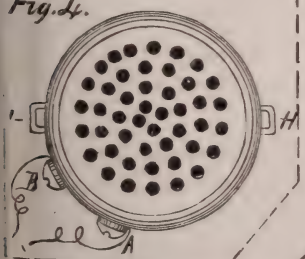


Fig. 5.

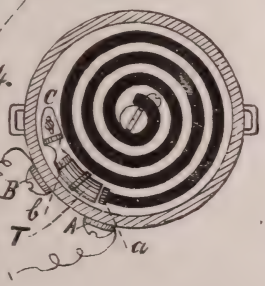
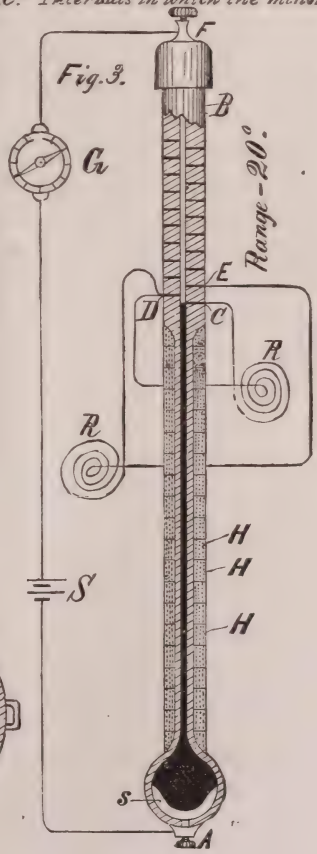


Fig. 3-Inside plan Fig. 4.
H.H.-Handles.
B-Binding posts.
T-Vulcanite tube.
b-Platinum knobs.

Fig. 3.



G-Galvanometer. S-Battery. H.H.H-Coils in position.
R.R.-Diagram showing arrangement of coils.
S-Silver film lining bulb.

movable surface, in the form of a sinuous line, whose rising and falling inflections would give a graphic representation of them.

Now, that I had satisfactorily reduced this portion of the problem, the next in order was the devising that part of the instrument intended for recording such variations as the other branch might be subjected to. This, I assure you, was no easy task, but one requiring a mint of patience and tedious application. For, first—it must be simple; second—there must be established a permanent relationship between the first and second branches of the instrument; in other words, there must exist throughout a strict interdependence; third—in order that the electro-motive force required might be reduced as much as possible, it must be delicate; fourth—to render the latter possible, friction must be practically reduced to a minimum. To carry you through the almost endless and varied experiments necessary in developing means for meeting these indications would be as tiresome as it would be unnecessary. Hence, I shall confine myself to the result only.

If a number of coils of insulated wire be wound around a hollow reel, there is formed what is known to electricians as a *helix*. If this is now placed in an electric circuit and a current passed through its convolutions, it is temporarily constituted a magnet, the two ends forming the poles; so that it may be said to possess all the properties of a permanent magnet during the passage of the current. Moreover, if such a helix, mounted in a vertical position in such a way that an iron rod can be introduced into it from below, be connected with a battery, the iron rod will be at once drawn up into it and be sustained oscillating in its axis, even though the rod may weigh considerable.

The depth the iron rod enters will also depend entirely upon the strength of the current and the amount of resistance offered by the iron rod. This principle is well-known in physics as the "axial electro-magnetic force," and in it I found what I sought, namely—a combination of delicacy and strength in the proper proportions. A diagramatical illustration of its application may be seen in fig. 6, where H represents a helix of peculiar construction applied to the purpose in hand; D is a soft iron tube in connection with the short end of the lever (L); P, represents the

Fig: 6.

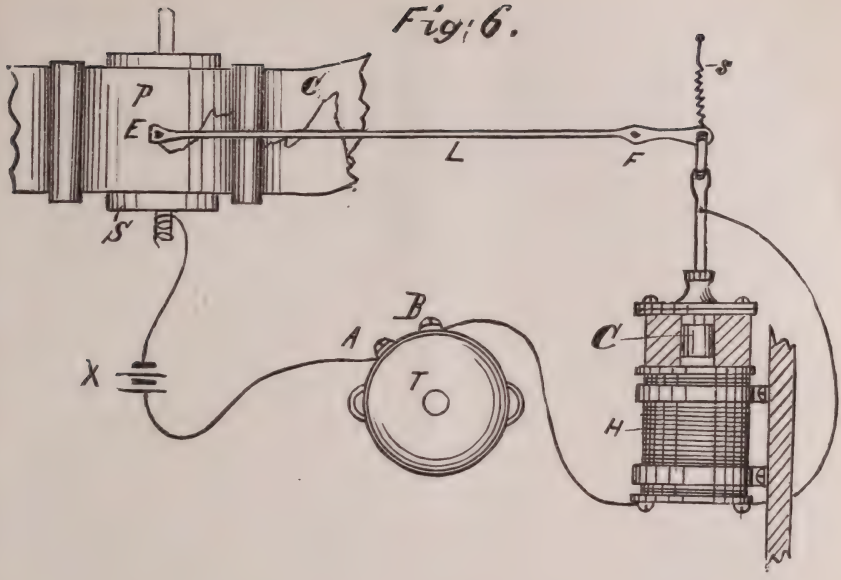
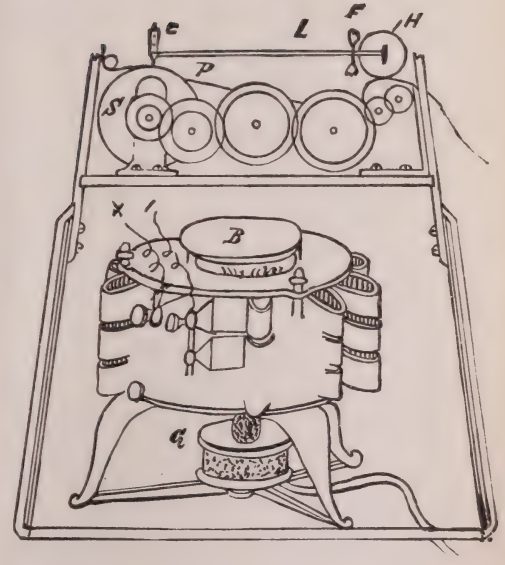


Fig: 7.

Fig: 8.



movable surface or strip of paper; F, the fulcrum of the lever, and E its marker or stylus; T, the thermometer proper introduced into the circuit; X, the battery; C, the curve, and S, the brass drum over which the strip of paper (P) moves.

Having comprehended the principles, the action of this combination is obvious. If an electric current passes through the helix (H), the core (D) will be drawn into said helix, carrying with it the short end of the lever (L), to which it is attached. This movement naturally causes the marking end of the lever to make a still longer excursion in the opposite direction. Upon breaking the circuit, the attractive power of the helix is abolished, and the counter-action of the spring (s) returns the lever to its normal position.

The depth to which the core (D) is drawn into the helix (H) being dependent upon the strength of the current passing through the coils of wire, the excursions of the tracer or lever will also be great or small, according as the current is weak or strong.

The lever (L) is delicately made, and its fulcrum provided with jewel mountings. Its short end is connected with the core (D) by means of a universal joint, while its longer end has inserted in it a silver stylus reaching to the surface of the traveling paper. The latter moves over a brass drum forming a portion of the circuit. The strip of paper passing over the brass cylinder, having been saturated with a solution of chloride of sodium, pyrogallic acid, and ferrocyanide of potassium, the instrument is complete.

When this combination is in operation, a current of electricity will pass from one pole of the battery to the binding-post (A) of the thermometer proper, through the substance in the vulcanite tube to emerge at binding-post (B); thence through the helix to the lever, along this to the silver stylus; thence through the moistened paper and brass cylinder to the other pole of the battery—thus completing the circuit. Upon the application of varying degrees of heat to the thermometer proper, the resistance the current meets with during its course will be varied in precise accordance with the various changes of temperature. This waxing and waning current will now pass through the helix, and by the latter's peculiar action produce to and fro motions in the lever, passing, at the same time, through the lever and chemically

prepared paper, and producing as it passes a double chemical decomposition upon the paper; one of which decompositions renders the development of friction, during the movements of the lever, so slight as to be imperceptible; the second decomposition producing a change in color upon the paper, corresponding to the movements of the stylus, and affecting no larger surface than it covers, thus obviating the additional friction accompanying the use of an ordinary marker.

From this description you will understand that the lever is moved backward and forward by a difference in the attractive power exerted by the helix, this in turn being dependent upon the strength of the current, which has already passed through the thermometer proper, and there been moulded into electric waves corresponding to the heat waves; the motion of the lever being facilitated by the lubricating action of the current, as the result of one of the chemical decompositions during its passage through the chemically moistened paper; while the other decomposition causes a discoloration, and thus produces a mark corresponding in outline to the movements of the lever. This mark will, therefore, form an irregular line, whose sinuosities will give a graphic representation of the heat variations. This apparatus is extremely sensitive and can be made to record 1-100 of a degree.

Now, after marking upon our strip of paper the minimum and maximum points representing respectively 90° and 110°, it becomes a very easy matter to determine the degree of heat represented by any point lying within this range. This is accomplished by dividing the intervening space into any number of equal parts, when any one of these divisions will represent a degree or any part of a degree, according to the number of divisions. These horizontal lines may be placed at such distances from each other as to represent 1-10 of a degree. Having provided the traveling paper with a uniform speed, it also becomes an easy matter to determine the time represented by any given distance upon its surface; for, supposing a certain amount of paper passes a given point in the instrument in one hour, to determine the amount passing the same point in five minutes, it is only

necessary to draw vertical lines dividing this distance into twelve equal parts, each one of these will then represent five minutes.

After determining upon the principles it becomes very easy to work up the details that would place the instrument in a convenient form for manufacture and use. These may be seen, as applied, in figs. 7 and 8. Fig. 7 is a front elevation of the complete thermograph.

It consists of a cast-iron case having two departments, one for the recording mechanism and actuating clock movement, the other for the battery. In the upper part of the front there is a circular depression for the reception of the thermometer proper or perceiving portion of the instrument when not in use.

This is held in place by means of two little catches, one on either side, as seen in the figure. On both sides of this are the binding posts for the reception of the wires leading from the thermometer proper when the latter is in position in the axilla. The open work in the lower portion is intended for the ingress of air and egress of gases. Fig. 8 is an interior elevation with the front removed; above is seen the recording mechanism, and below the thermo-electric battery. This form of battery gives a continuous and unvarying current, requires no cleaning or recharging, and costs but little to run, hence it is the most available source from which to derive the current; the heat for operating it may be supplied by either an alcohol lamp or a gas-burner. Not only is it possible with this instrument to procure a continuous curve denoting the constant febrile condition of a subject, but, with the addition of certain accessories now in process of construction, and as suggested by Prof. Mayer, of the University of Technology, Hoboken, and Dr. Toner, of Washington, we may be able to procure, on the same strip of paper, at the same time and under similar conditions, a sphygmographic and a respiratory curve; thus enabling pathologists, therapeutists, physiologists, and, in fact, general practitioners, to study the inter-relationship of these three cardinal symptoms under various modifying circumstances. These are the *possibilities*, but when we drift into the *probabilities*, we see in prospective the addition of that which will also furnish a moisture curve. Of the advantages of the graphic method as applied to medicine, I need hardly speak. It

already promises for medicine what it has accomplished in physics.

Every physicist adores such familiar names as Leon Scott and Dr. Clarence Blake, to whom we are indebted for the application of the graphic method to the science of acoustics, through the medium of the phonautographs invented by themselves.

To the experimental therapeutist this instrument is of incalculable value, as affording a means of determining the precise character of the temperature changes under the administration of various therapeutic agents in different sized doses and modes of exhibition.

The experimental physiologist will find in it that which will materially facilitate accurate observation in his field. And the advantages accruing from its application in pathological investigations, and the possibility of thus elucidating hitherto obscure phenomena, must be patent to every one. An instrument of so much value as an aid to observations in these three important branches of scientific medicine, needs no further lauding; but I cannot draw my paper to a close without setting forth the mode of application and the advantages attending its use in every day practice.

Take, for example, a suspected case of typhoid fever, experience and experimentation with the thermograph having already revealed a characteristic *minor* wave curve for typhoid fever. The physician is summoned. Upon arriving he applies his thermograph in the following manner: First, the perceiving portion, as seen in fig. 4, is fastened in the axilla by means of two elastic bands attached to the handles H H, one passing around the trunk, the other over the shoulder. Next, two fine and flexible silk covered wires are led from the binding-posts A B, fig. 4, to the binding-posts B B, of fig. 7, the latter having been previously placed upon a stand at the head of the patient's bed.

The wires, of course, are of sufficient length to admit of any degree of motion on the part of the patient without interfering with the position of the recorder. The instrument will now be ready for use, and, upon starting the battery, it will continue in operation for any desired number of days, with little or no attention outside of winding and replenishing with new rolls of paper.

The first benefit to be derived from its use in such a case, consists in the ability to determine upon a diagnosis much earlier than would ordinarily be possible; second, the physician is furnished with a permanent record of the condition of his patient from hour to hour and day to-day; third, the slightest modification or variation by reason of an exposure, the exhibition of prescribed remedies at given hours, or the ingestion of prescribed food during the day, will be revealed to the physician when he makes his evening visit, thus affording him from time to time, a more definite idea of the immediate effect, good or bad, of his treatment: fourth, it will give warning of danger from collapse during the crisis before it could be detected in any other way; fifth, the physician is provided with a means of leaving more definite directions with the attendant or nurse, *e. g.*, he will be able to say that "should the curve assume such or such a character, or the line rise to this or that point, you may discontinue this, that, or the other remedy, and proceed to exhibit *this*, according to the directions; or, should such and such a thing take place it will indicate an emergency calling for this, that, or the other measure."

The science of meteorology, also, will find in the thermograph an instrument it has long felt the need of. Never before has there been invented an instrument capable of furnishing a curve representing the constant temperature of the atmosphere. To be sure, there are two or three instruments in the possession of the United States Weather Department at Washington, constructed upon an entirely different principle, which automatically produce a continuous curve, but the latter is only by reason of the velocity with which the cylinder revolves, besides, they are of an exceedingly complicated nature, cumbersome, and *very* expensive.

The simplicity and inexpensiveness (it will cost about $50) of the thermograph, places it within the reach of almost every physician, and will enable the United States Weather Department to furnish one or more of them to every one of its substations.

This, gentlemen, is the instrument I have chosen to dignify with the title of *Thermograph*, and which I have lately placed in

the hands of Aloe & Hernstein to manufacture for the use of the medical profession.

With its introduction, I predict the dawn of a new era in medicine, marked by progress equal to that accompanying the introduction of the sphygmograph, myograph, cardiograph, and other important instruments of a similar character.

[Condensed from a paper read before the El Paso County Medical Society, Colorado Springs, Colorado.—*Rocky Mountain Medical Review.*]

A COMMITTEE has been appointed by the New York Academy of Medicine, consisting of Drs. H. G. Piffard, F. R. Sturgis and G. H. Fox, to investigate the extent to which leprosy prevails in the United States. We are glad to note that this subject is attracting the attention which it deserves. A committee of the American Dermatological Association, a national body, has had this subject in charge for several years and has regularly published the statistics which it has laboriously accumulated. Its chairman is Prof. James C. White, of Boston, the eminent dermatologist of Harvard University, and probably the oldest dermatologist in this country. Physicians knowing of the existence of lepers in any part of the United States, are requested to communicate with these gentlemen. The address of Prof. White is No. 10 Park Square, Boston, Mass.

COOK COUNTY HOSPITAL.—On April 1, Dr. G. F. Bradley was put in charge of the Medical wards, replacing Dr. B. C. Gudden. Dr. L. L. McArthur became House Surgeon, taking the place formerly occupied by Dr. W. P. Verity. Dr. B. C. Meacher is first assistant to Dr. McArthur, Dr. H. Kendall occupies the same position on the Medical side.

Summary.

Collaborators:

DR. L. W. CASE, DR. R. TILLEY,
DR. BYRON W. GRIFFIN, DR. W. L. DORLAND,
DR. H. D. VALIN.

PRACTICAL MEDICINE.

PROGRESS OF MEDICINE IN THE WESTERN STATES.

Dr. R. W. Erwin, Bay City, Michigan, gives an interesting account of a rhino-plastic operation performed by him in 1879. The new nose thus formed looks much like the natural organ, at least in the cut, and an interesting fact is that the smell, absent for years, was also restored.

The points of most interest derived from the case are:

"*First.* The entire structure should come from the forehead without regard to hair.

"*Second.* It should be large enough, especially in the vertical diameter, to admit of leaving the pedicle for several months undivided. The column for the septum must be long, else it will continue to draw down the tip. The leaving the pedicle attached does more than anything else to prevent the organ from becoming flat. While left it will be necessary to use a little pressure over it to prevent retraction. Court plaster will do, and may be applied by the patient himself. Should the patient be unwilling to exercise this care it would be better to divide the pedicle as customary.

"*Third.* Long after the healing, a compress on each side of the

nose should be worn part of the time (nights will do) to insure symmetry and permanency of shape.

"*Fourth.* No skin should be wasted in preparing the parts for the reception of the flap, no matter how small. It should be dissected up, and turned over to form a partial cover for the exposed raw surface beneath the bridge."—*N. Y. Med. Record*, Feb. 12, 1881.

QUARANTINE IN DIPHTHERIA.

Dr. A. T. Conley, of Cannon Falls, Minnesota, writes to the *Medical Record*, February 19: Our village and surrounding country have just passed through the worst epidemic (of diphtheria) ever known in these parts.

After careful study of the disease I have become convinced that we cannot find the specific cause of diphtheria in the effluvia of decaying vegetable or animal matter, conveyed either through air or water, for this reason: We have had, so far, a much more than ordinarily severe winter, not a single thaw since the last of October, the mercury most of the time below zero, and yet, perhaps, Minnesota never suffered so severely from diphtheria. I believe medical men will agree with me when I say that the most malignant epidemics of diphtheria are to be found in the Northern States *and in the winter.*

How can this be accounted for by the advocates of the theory that the specific cause can be found in the decomposition of vegetable or animal matter, when no such decomposition is taking place? There may be such a thing as spontaneous diphtheria, but this I think not more likely than spontaneous small-pox. I believe, for children, diphtheria is as contagious as small-pox.

As soon as diphtheria appeared in our vicinity, we had a competent sanitary committee appointed who visited every house and examined into all sources of filth, and our village was put into the best sanitary condition possible, and yet the disease has carried off twenty-two of our children in the dead of winter. I have further noticed that filthy families have suffered no more than the cleanest; that families who lived in the immediate vicinity of manure piles suffered no more than those who were far removed from such sources of contamination.

I believe we have only succeeded in getting rid of the plague by the strictest quarantine, closing all schools and churches, and prohibiting public gatherings of all kinds, and allowing only physicians and nurses to visit the sick; the village paying a man to take orders and deliver everything needed by families where the disease existed, at the gate, and after the disease subsided, thoroughly disinfecting and cleaning up. In short, treat it the same as small-pox. I believe I can trace every case, and account for it by contagion solely, in our village.

Now, while I am a strict believer in the laws of hygiene, and that cleanliness is next to godliness, and that towns and cities cannot be too strict in enforcing all laws for the removal of all sources of filth, still they must go farther in dealing with diphtheria, and enforce strict quarantine, and the sooner medical men are united on this point the sooner will diphtheria lose much of its formidableness.

NASAL CATARRH.—Three Cases, with Treatment. By B. T. Mouser, M.D., San Francisco.

H. B., æt. 14, exposed in occupation to constant inhalation of fine emery. Patient called on me in April (1880), complaining of offensive breath, occasional headaches and epistaxis. The fossæ dry and a lack of secretion, epiphora caused by closure of the punctæ lachrymalis. On examination anteriorly with nasal speculum and posteriorly with small mirror, much after the style commonly used in laryngeal examinations, the fossæ are found to be roomy, pituitary membrane dry and lacking that glistening appearance seen when there is sufficient mucus. On the posterior aspect of the septum and margin of the turbinated bones a varying amount of thin, white crusts are seen, which it is impossible for patient to free himself of, by hawking down the throat or blowing the nose. Expired air is very offensive, so much so that the disagreeable odor is noticed immediately on patient's entering the room. Sense of olfaction so thoroughly blunted that this most obnoxious symptom of the disease is not apparent to himself, but is often mentioned by his friends and relatives. The punctæ lachrymalis being opened, after the lapse of three or four days all indications of epiphora disappeared; it not being

necessary to dilate the canaliculi or sacs. Nasal douche was used for many months, and application of the numerous disinfectants made—carbolic acid and glycerine, permanganate of potash, salicylic acid—all proving of no avail. Pellets of cotton-wool, saturated with iodoform, carbolic acid and vaseline, were placed in the superior meatus from behind, and removed every second day. Iodoform acts on the pituitary membrane as a tonic and stimulant, and while it is a disinfectant, its unpleasant odor is disguised by the remaining two ingredients. After the removal of each pellet, the full expanse of pituitary membrane was thoroughly washed with a spray of the ten per cent. boracic acid solution. During the first month of treatment it was frequently found necessary to remove some deposits of incrustation on the turbinated bones by means of brush introduced into the posterior nares.

For some time the patient has been free from headaches and epistaxis, the offensiveness of expired air is not apparent to members of his family, and during the last two months the most thorough examinations have not revealed any fetid and tenacious crusts.

Case II.—R. B., æt. 50, has had considerable discharge from both nares for some time, and other disagreeable symptoms of an attack of chronic coryza; sense of olfaction augmented, and respiration through nares becoming more and more difficult; speech affected with a nasal twang; expired air not offensive. On microscopic examination, the nares were found occluded with a thick, semi-gelatinous substance; this was loosened with a spray of carbolic, boracic acid and diluted glycerine. After thorough cleansing, the right naris was found to be closed by a shining, gelatinous body, movable with a probe, and working its passage further on into the meatus upon sharp and violent expiration; the left naris being closed with the finger. Left naris posteriorily presented shining spots in middle and inferior meatuses. Pharyngitis sicca well marked. I removed two polypi, each the size of a large bean, from middle and inferior meatuses of left side, by means of wire écraseur introduced anteriorly; bleeding slight and pain moderate; base of each pedicle burnt with galvano-cautery, pellets of cotton wool

saturated with olive oil, inserted and held in position by piece of dry cotton. Patient returned on second day much relieved as to difficulty of breathing, pituitary membrane of left side being considerably swollen, in consequence of the cauterization, but allowing easy respiration. The seventh day after the first operation, I removed a large polypus from inferior meatus of right side, using the écraseur as before. The écraseur was pushed through the inferior meatus from in front until it struck the wall of the pharynx, the ordinary laryngeal forceps introduced through the mouth, and the wire noose enlarged and slipped over the polypus; laryngeal forceps then removed, the pedicle crushed, and the growth removed anteriorly; base of pedicle cauterized as before. This polypus was three quarters of an inch in length and width, and of proportionate thickness, with a pedicle half an inch in length, but the latter I imagine was somewhat elongated by traction of the instrument. Cotton wool, saturated with oil, inserted as after former operations, the left naris now being open; on second day, cotton pellet removed. Slight congestion of membrane of this side, that of the left having subsided.

After a lapse of two months, patient is entirely free from trouble; pharyngitis sicca is disappearing under use of mild astringent applications, and the return of free respiration by the nares. Patient using iodide of potash daily in small doses, in order to promote a healthy action of pituitary membrane.

Case III. C. W., æt. 34; has suffered from chronic coryza for many years, with loss of sense of smell; headaches so severe and prolonged that life has become a burden. Examination per specula and rhinoscopic, shows general hypertrophy of mucous membrane, both nares being alternately occluded; the inferior turbinated bones being much enlarged and encroaching upon the septum, secretions are often so packed between these swellings of the membrane that forcible injections of water are made in order to give relief. Patient has used nitrate of silver in solution, lunar caustic and, in addition, every patent (proprietary) preparation in the country, but with no relief.

After repeated burnings with galvano-cautery, I found that before the inflammation following one application had subsided

the remainder of the membrane on that side of the nose was much aggravated by the treatment. I then concluded to do some bold surgery, and with a strong pair of scissors cut off a considerable quantity of the middle and inferior turbinated bones, cauterizing the raw surface after the hæmorrhage had subsided. Each naris was operated on separately with an interval of ten days. Patient suffering after each operation, he was confined to his bed for forty-eight hours, and kept under the influence of opiates; the nares being alternately stuffed with oiled cotton-wool. Patient now having greater freedom of respiration, feels something of the pleasure of life, and does not think the accumulation of mucus any inconvenience. The cicatrized portion of membrane has not shown any tendency to hypertrophy since the subsidence of inflammation immediately following the cauterization.

These three cases, to my mind, are interesting as showing well-marked results and complications of acute and chronic coryza; and the perfect failure of treatment with many vaunted infallible remedies of the day. While our treatment of nasal catarrh is often unsatisfactory, it is nevertheless our duty to give our patients some careful attention, and be cautious in advising the use of quack remedies which often are not harmless.—*San Francisco Western Lancet*, January, 1881.

DR. E. C. SEGUIN, in *Archives of Medicine*, Vol. 4, No. 1, August, 1880, contributes to the symptomatology of Uræmia, by an interesting summary of two cases in which occipital headache was so localized and persistent as to give rise to a strong suspicion of organic disease of the cerebellum, and in one (No. 2) a positive conclusion was only reached by means of a post mortem examination. Both cases appear to be cases of contracted kidneys.

Both patients were adults aged thirty-six and forty-seven. Both had suffered more or less from chronic headache of the migraine type. At a given period the headache became transformed into a localized occipital *pain* very different from the former attacks. This peculiar headache was distinctly paroxysmal, but not at all periodical. Both cases were accompanied by nausea. In neither was their suspicion of syphilis. Case No. 1

made relatively clearer by a previous history of convulsions and albuminuria four years ago; other symptoms of renal disease not marked; no ophthalmoscopic lesion; no dyspepsia; heart normal. Urine contains five per cent. albumen; sp. gr. 1018. Hyaline and granular casts.

Case 2 died in comatose state. No convulsions or paralytic symptoms having shown themselves though the pain had extended to sixth cervical vertebra. Urine examined four days before death gave ten per cent. albumen with numerous hyaline and granular casts. Autopsy showed extensive granular disease; cerebellum and brain in normal condition.

While in some respects the story of these cases is imperfect, and Dr. S. particularly regrets lack of observation upon the quantity of urine passed and the state of arterial tension, yet he is inclined to believe that their publication may serve to render more accurate the diagnosis of occipital headache and illustrate the utility of critically examining the urine in cases of any degree of obscurity, especially as occipital headache is scarcely mentioned as a symptom of uræmia.

RESECTION OF TWO METERS OF THE SMALL INTESTINE, WITH RECOVERY. (Reported before the Academie de Médecine, January 25, 1881, by Dr. Koeberlé of Strasbourg.)

Patient, Miss K., age twenty-two, never had any disease nor indispositions, except colics, of which she has suffered at different times for the last two or three years. These had returned more severe and more frequent last year, and in October (1880), severe symptoms of intestinal strangulation recurred twice, fifteen days apart. These were relieved in both circumstances by clysters. Ever since, she suffered with continuous and intense colics, which gave her no rest, day or night, and which could hardly be subdued by hypodermics of morphia. Three points of intestinal obstruction could be inferred from the successive colics, but a positive diagnosis of the lesions could not be made.

I performed gastrotomy, November 27. There were four narrowings, more and more marked, the last being hardly .004 m. The first two were .14 m. distant. These strictures involved two meters of the small intestine, all of which were amputated

between two ligatures at each end, and twelve ligatures were applied to the mesenteric vessels. The ligatures from the two free ends of the intestine were tied together in such a manner as to lay the sides opposite to the mesentery in opposition, the most favorable condition for enterectomy, and they were attached to the fibrous tissue of the *linea alba* through a suture which retained them in contact with the peritoneum at the inferior angle of the incision. The ligatures of the mesentery were brought out at the superior angle of the abdominal incision, where they were retained, together with the ligatures of the intestine, in a fixed position. The superior part of the wound was partially closed. Enterotomy was made the third day. The ligatures and sloughs came off from the twelfth to the fifteenth day. First alvine discharge took place after twenty days. On the twenty-fifth day the communication with the intestine was almost closed, and six weeks after the operation, the external wound was also closed and healed. The patient is feeling quite well, and experiences no digestive disturbance.

The temperature rose above 38° C. once on the third day. The operation lasted more than three hours, and was not made antiseptically. The peritoneal cavity was simply cleaned by towels which imbibed the serum as low down as the pelvic cavity. Patient was fed, after the second day, with solid substantial aliments (bread, meat and eggs), with an amount of liquid strictly sufficient to insure digestion. Drink was administered by rectal injections. She took thus, in the space of twenty days, seventy injections of pure water which were all retained.

Conclusions from this and similar operations :

1. Resection of the small intestine can be made for a considerably long portion, two, and even more, meters, without disturbing the digestive system in any appreciable manner.

2. Made under favorable conditions, this may be considered a perfectly appropriate operation.

3. Resection can be made : 1. Either by a direct operation, sewing the two ends together, and immediately closing the external wound ; 2. Or by making an incomplete apposition by sutures of the ends of the intestine, combined with an artificial anus. The second and the third are the safest procedures.

4. Resection of fibrous or cicatricial strictures. which are probably more common than we are aware, is likely to be followed by a permanent recovery. So also the resection of epitheliomas. On the contrary, resection for cancerous obstructions gives but a temporary relief, more or less marked, on account of the return of the affection, its metastasis, and the progressive degenerations of the lymphatics.

5. Keeping the intestine closed after the operation, as I did in this case, exempts the patient from any alvine discharge for many days, until the adhesions are sufficiently strong. On the other hand, the abdomen remains a little distended, thus preventing the entrance of air or of septic liquids into the peritoneal cavity. Feeding the patient solid food reduces the fæces to their minimum, and leaves no depressing result.

6. Clysters relieve the thirst, diminish the fluids in the small intestine, and free the patient from much annoyance.

DR. ED. LABBÉ ON THE ETIOLOGY OF PHTHISIS. (*L' Union Médicale*, February 1, 1881.—Abstract.)

I might cite numberless cases of acquired tuberculosis. I would simply need peruse a list of the various diseases; thus, diabetes, cirrhosis, though more rarely, and other chronic diseases may be complicated with tuberculosis. All the various trades which oblige so many wretched beings to live in confined atmospheres, far from daylight, as in mines; those which expose one to breathe metallic or other sorts of dusts; furnish a large proportion of cases of that disease. Pregnancy, lactation, whooping cough, measles, prolonged dyspepsia, inanition from lesions of the œsophagus, can lead to tuberculosis. The rheumatic, cancerous, and syphilitic diatheses, are often complicated by tuberculosis, which induces their fatal termination. If all these are real causes, if we admit the identity of these various forms of tuberculosis, it may as well be granted that the constitutional disease scrofula, has a still more powerful predisposition to induce tuberculosis; scrofulous diseases, at an early period, are already superimposed on an impaired constitution. No difference, clinical or histological, exists between pulmonary phthisis of a scrofulous origin and other forms of phthisis.

The tissue in which the tuberculosis has developed may impart

to the morbid process a different course; in this manner, pulmonary phthisis progresses more rapidly than a tuberculosis localized in the testicle, or on the skin, yet the tubercular lesion is the same. It is useless to insist on the greater risk of dissemination from highly vascular organs, crowded with lymphatics; according to Laënnec, the softening of a tubercle is the most frequent cause of a general dissemination of the disease. We may add, that the rapidity of the softening and dissemination depends also on the exhaustion of the patient. To recapitulate: Let tuberculosis be local or general, it is always one and the same disease. The only specific character which could be ascribed to it would be its contagiousness, as is probable; but this would become the strongest argument against the diathetic character of tuberculosis.

As to hereditary descent, there is no doubt that a phthisical parent may start a phthisical progeny, but how few hereditary cases compare with those in which the disease is acquired! Not one in ten. Among the consumptive in my service, there is one in eight. We may refer the diseases to indirect inheritance (in this sense that a constitution congenitally weakened is more exposed to tuberculosis), but not the sort of inheritance observed in gout, in the *rheumic* diathesis (*dartre*), or in scrofulosis.

Scrofula, on the contrary, is most always inherited, and seldom acquired. Not a disease in itself, it is a predisposition to a group of maladies, differing by their seat and by their course, and identical as to their origin. In the same manner as one is a victim of the gouty diathesis before he has had gout, so one is scrofulous long before suffering from scrofulous swellings. But one is not tuberculous, because suffering from a dyspepsia, diabetes, or measles, though these might start pulmonary tuberculosis. Phthisis may terminate almost all the scrofulous affections, but it could not generate scrofula. Granting for a moment that the anatomo-pathological characteristics of scrofulous diseases consist in the tubercular granulation, the same difference remains between the diathesis (scrofula) and the disease (tuberculosis), as between the *rheumic* diathesis and eczema. Rheumic, scrofulous or artificial eczema, is always much alike; borrowing its difference from its etiology; the eczematous lesion is only one of the elements of the disease.

TRICHINOSIS IN FRANCE.—Dr. Laboulbène, begins thus his relation of the first cases of *trichinosis* observed in France, (read before the *Académie*, Feb. 15). The *Académie* has certainly been impressed by the numerous cases of *trichinosis* observed in the lower animals and in men in later times, in many countries of Europe and in France. Newspapers from Sweden, Spain and America mention the discovery of *trichinæ* in many localities in which they had not been found anteriorly. Follow these quotations:

"Trichinosis, which, till lately, had been chiefly observed in the north of Europe, England and Germany, as well as in America, appeared some time ago in Catalonia, and other provinces in Spain, where it caused a natural alarm."—(*La Independencia Medica*, March, 1878.)

A dispatch from Dingelstad, Dec. 5, 1880, to the *Gazette de l'Allemagne du Nord*, says: "An epidemic of *trichinosis* is in progress here. A great many persons are down with it, and already several have died."

The report of the Health Department of Massachusetts for 1880 contains the following from Mr. Billings, a veterinary surgeon of Boston: "Out of 2,701 hogs examined in the space of five months, 154 contained *trichinæ*, an enormous proportion. These hogs came from different points, mostly from the Western States. Three out of 83 hogs' tongues freshly prepared, contained trichinæ."

In *Lyon Médical*, Jan. 2, 1881, Dr. Cazeneuve mentioned that Mr. Le Clerc, inspector, found trichinæ in slices of pork shipped from New York, which reached Lyon, Nov. 20, 1880. Six per cent. of the slices examined were infected with *trichinæ*.

Mr. Bascou, a veterinary inspector of Paris has found *trichinæ* in American pork.

The first epidemic of *trichinosis* in France, scientifically investigated, was one at Crépy-en-Valois, in 1878. The diseased hog had been reared in France; 21 persons ate of its flesh; 17 fell sick, and but one died. A long discussion in the Academy brought out the fact that much more severe epidemics have occurred formerly, which were called *acrodynia*, or other names. For *prophylaxis*, pork should be sliced thin, and heated to 75° C., thus destroying the *trichinæ*.

Items.

RUSH MEDICAL COLLEGE.—The Thirty eighth Annual Commencement of Rush College occurred on Tuesday afternoon, February 22, at Central Music Hall. This event marked the close of the most prosperous year of the life of the college. The number of the graduates receiving the ordinary degree was 170. This is, we believe, the largest class ever graduated by any college west of Philadelphia. In addition to the ordinary degrees, the honorary degree of Doctor of Medicine was conferred upon Dr. W. W. Allport, the well known dentist of Chicago, in consideration of his labors for the elevation of the profession of dentistry to a specialty of medicine; and upon Dr. S. D. Jacobson, President of the Medical Board of Cook County Hospital, as a testimonial to his worth as a clinical teacher and as a medical gentleman.

The exercises of the Commencement were lengthy and interesting. The audience filled the Music Hall to overflowing. Prayer was offered by Bishop Cheney. The Secretary of the college, Prof. Etheridge, read his report of the work of the college year. The statistical information of the report was as follows: There had been "16 special students, 170 graduates and 319 undergraduate students—total, 505." Of the class graduated, 84 per centum held either literary degrees or teacher's certificates from County Superintendents of Schools. Of the class, 33 had attended the college three years, and 146 had taken two courses of lectures in the college. Five years ago, the class contained only 3 three-years men, and only 36 had spent their two years in this institution.

The degrees were formally conferred by President Allen. A

brief and sensible "Valedictory for the Class" was delivered by Dr. C. T. Clark, after which a very eloquent and impressive address to the graduates was delivered by Prof. DeLaskie Miller.

The doctorate address was then delivered by President Allen. It considered the history and progress of Rush Medical College from its foundation to the present time. It compared this school with others in this country and abroad, and was, in general, a discussion of the question of medical colleges and medical college progress in many of its bearings and aspects.

The occasion was signalized by the President appearing in black gown and Oxford cap.

After the Commencement exercises were over, the Alumni Association held a business meeting. The following officers were elected for the ensuing year: President, Dr. J. L. Whitley, of Osage, Iowa; First Vice President, Dr. J. B. Hamilton, of Washington, D. C.; Second Vice President, Dr. Philip Leach, Class of 1881; Secretary and Treasurer, Dr. F. A. Emmons; Executive Committee, Drs. J. E. Owens, W. T. Belfield and Otto T. Freer.

In the evening the Faculty of the college entertained the Alumni and invited guests at a banquet at the Tremont House.

The toasts were as follows:

1. *Clinical Medicine*, Prof. D. T. Nelson.
"Laying his hand upon many a heart,
Had healed it forever."

2. *Medicine and Dentistry*, Dr. W. W. Allport.
"Sure the shovel and tongs
To each other belongs."

3. *The Sisters of Medicine*, Hon. Geo. Gardner.
"And loved to plead, lament and sue."

4. *The Profession of Medicine*, Dr. Norman Bridge.
"* * * but when ill indeed,
E'en dismissing the doctor don't always succeed."

5. *The First Dose of Medicine*, Dr. C. S. Shepard,
Of the Class of 1881.
"And so he was reduced at last,
To practice in a country town."

6. *Medicine and Civil Service Reform*, Dr. F. C. Henrotin.
"At this the Mayor and Corporation
Quaked with a mighty consternation."

7. *Medicine in Illinois*, Dr. Geo. Wheeler Jones.
Of Danville, Ill.

"Who comes and asks you how's your liver,
And where you ache, and whether you shiver."

8. *Alma Mater*, Prof. Henry M. Lyman.

"And gladly wolde she lerne, and gladly teche."

Address of the President of the Alumni Association,
Dr. Solon Marks, of Wisconsin.

AN APPEAL TO THE MEDICAL PROFESSION.—Although the *Index Medicus*, during its second year, has not been so great a loss financially as in its first, its actual expenses are not yet fully covered by subscription, the mass of material and the labor involved making it a far more costly publication than any similar periodical issue. The value of the work has, however, been so thoroughly recognized by those who have practically tested it that a number of American subscribers have volunteered, in addition to their subscription, to contribute to a guarantee fund, for the purpose of securing the publisher against further loss, and, at the same time, to give the medical profession another opportunity to place the publication upon a self-supporting basis. Thus it has been decided to give it another year's trial, and it is hoped that the example set by an appreciative and generous minority will not prove fruitless. Only 200 more subscriptions are required to permanently establish a publication which is of incalculable benefit to the whole medical world. Even where individual subscriptions cannot be afforded, some personal influence among the medical societies and libraries, a few words of earnest commendation to medical friends, or through the medical press, would accomplish the desired end.

It is almost unnecessary to say that the suspension of the *Index* would prove an irreparable loss to the entire profession. It is doubtful whether the publication could ever be revived under similar favorable conditions, viz.:

The vast material and admirable system at the National Medical Library, in Washington.

The capacity of the editors, equaled only by their personal sacrifice and devotion to their laborious task.

A publisher who, after all his discouragement and loss, again offers his services without expecting any remuneration until the enterprise is established.

It would be presumptuous on the part of the publisher to dwell on the merits of the work itself when the most prominent men of the profession have given it their hearty support and unqualified commendation. But he should be permitted, on this very ground, to ask every one interested in the promotion of medical science and literature to aid the undertaking, either in the way of individual subscription or personal influence.

The *Index Medicus* is a monthly classified record of the current medical literature of the world, compiled under the supervision of Dr. John S. Billings, Surgeon, U. S. A., and Dr. Robert Fletcher, M.R.C.S., England. It records the titles of all new publications in medicine, surgery and the collateral branches received during the preceding month. These are classed under subject-headings, and followed by the titles of valuable original articles upon the same subject, found, during the like period, in medical journals and transactions of medical societies. The periodicals thus indexed comprise all current medical journals and transactions of value, so far as they can be obtained.

The *Index Medicus* is published monthly, and supplements all the leading medical journals (American and foreign) as a current guide and general index to all.

Subscription price per annum, postage prepaid, for United States and Canada, $6. *Sample copies sent free on application.* The addresses of probable subscribers are desired from the friends of the enterprise. Address F. Leypoldt, publisher, 13 and 15 Park Row, New York.

Subscriptions abroad will be received by Trübner & Co., 57 Ludgate Hill, London; J. H. Baillière et Fils, Rue Hautefeuille, 19, Paris; K. F. Köhler, Poststrasse, 16, Leipzig.

AMERICAN MEDICAL ASSOCIATION.—The thirty-second annual session will be held in Richmond, Va., on Tuesday, Wednesday, Thursday, and Friday, May 3, 4, 5, 6, 1881, commencing on Tuesday at 11 A. M.

"The delegates shall receive their appointment from such per-

manently organized State Medical Societies as are recognized by *representation in their respective State Societies*, and from the Medical Department of the Army and Navy, and the Marine Hospital Service of the United States."

"Each State, County, and District Medical Society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, territory, county, city, or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Secretaries of Medical Societies as above designated are earnestly requested to forward, *at once*, lists of their delegates.

SECTIONS.—"The Chairmen of the several Sections shall prepare and read in the general sessions of the Association, papers on the advances and discoveries of the past year in the branches of science included in their respective Sections." * * * * —By-Laws, Art. II., Sec. 4.

Practice of Medicine, Materia Medica and Physiology.—Dr. Wm. Pepper, 1811 Spruce st., Philadelphia, Pa., Chairman; Dr. T. A. Ashby, Baltimore, Md., Secretary.

Obstetrics and Diseases of Women and Children.—Dr. Jas. R. Chadwick, cor. Marlborough and Clarendon sts., Boston, Mass., Chairman; Dr. Joseph Taber Johnson, Washington, D. C., Secretary.

Surgery and Anatomy.—Dr. Hunter McGuire, Richmond, Chairman; Dr. Duncan Eve, Nashville, Tenn., Secretary.

State Medicine.—Dr. Jas. T. Reeve, Appleton, Wis., Chairman; Dr. R. G. Jennings, Little Rock, Ark., Secretary.

Ophthalmology, Otology and Laryngology.—Dr. Dudley S. Reynolds, Louisville, Ky., Chairman; Dr. Swan M. Burnett, Washington, D. C., Secretary.

Diseases of Children.—Dr. A. Jacobi, 101 W. 34th st., New York, Chairman; Dr. T. M. Rotch, 77 Marlborough st., Boston, Mass., Secretary.

A member desiring to read a paper before any Section should forward the paper, or its *title*, and *length* (not to exceed twenty

minutes in reading), to the Chairman of the Committee of Arrangements at least one month before the meeting.—*By-Laws.*

Committee of Arrangements.—Dr. F. D. Cunningham, Richmond, Va., Chairman.

Amendment to the By-Laws offered by Dr. J. M. Keller, Ark.—In the election of Officers and the appointment of committees by this Association and its President, they shall be confined to members and delegates present at the meeting, except in the Committee of Arrangements, Climatology, and Credentials.

W. B. ATKINSON,
Permanent Secretary.

AN INTERESTING MORTALITY EXHIBIT.—The Health Department has compiled the following details from the record of deaths by phthisis pulmonalis in the city of Chicago for the year ending December, 1880. It is said to be the most complete abstract ever made up in the department:

Deaths by months: January, 67; February, 65; March, 93; April, 74; May, 60; June, 67; July, 66; August, 64; September, 61; October, 75; November, 56; December, 52—total, 800.

Occupations: Males—Actors, 3; artists, 1; bakers and confectioners, 2; barbers, 3; bell-maker, 1; blacksmiths, 10; book-binders, 3; boot and shoe makers, 9; brewers, 3; brass-finishers, 3; butchers, 6; cigar makers, 11; clerks and salesmen, 30; coopers, 5; cooks, 2; engineers and firemen, 5; farmers and gardeners 9; grocers, 5; gunsmiths, 2; hatters, 4; lawyers, 6; laborers, 75; lithographers, 2; machinists, 13; masons and bricklayers, 6; merchants, 20; moulders, 4; musicians, 2; peddlers, 2; packers, 2; painters, 10; physicians, 4; photographers, 1; plasterers 2; plumbers, 3; police, 1; painters, 17; porters, 5; priests, 2; sailors, 3; saloon-keepers, 9; stonecutters, 1; tailors, 20; tanners, 3; preachers, 4; tinsmiths, 5; telegraphers, 2; teamsters, 3; undertakers, 3; waiters, 8; woodworkers, 35; book-keepers, 15—total, 400.

Females—Dressmakers, 7; laundresses, 7; milliners, 2; seamstresses, 25; housewives, 110; tailoresses, 5; servants, 10; unknown, 35; under 15 years, 200—total, 400.

TREATMENT OF MEMBRANOUS SORE THROAT.—At a recent meeting of the Academy of Medicine of Paris, Dr. Viard made a communication on this subject. He considers that membranous sore throat is primarily a local affection, which does not become general for five or six days; during the first period the diphtheria may be cured by cauterization (*Medical Press and Circular*). During the last eighteen months he has had twenty-six cures out of twenty-eight cases. Wrapping his finger in a rough cloth he removes the false membrane, leaving in its place a bleeding surface; then he cauterizes with nitrate of silver; four or five such cauterizations neutralize the diphtheritic poison. General tonic treatment is employed at the same time.

PILOCARPINE: ITS GENERAL EFFECTS AND ITS ACTION IN SYPHILIS.—Dr. Lewin, of La Charité Hospital, Berlin, has been experimenting on the action of pilocarpine on the salivary and sudoriparous glands. In the course of three years and a half he has treated thirty-two patients affected with different forms of syphilide by subcutaneous injection of pilocarpine. Seventy-eight per cent. of the patients were cured. Of seven cases two were of serious form, and had resisted energetic mercurial treatment; the cure was incomplete, and it was necessary to have recourse to injections of corrosive sublimate to complete it. In five other cases the treatment had to be suspended on account of inter-current complications (endocarditis, hæmoptysis, collapse).

The patients who were cured by the aid of pilocarpine showed large condylomata, various exanthemata, pharyngeal lesions, one a gummatous periostitis, and one ulcer of the leg.

The mean duration of the treatment was eighty-four days. The dose injected each time was usually 15 milligrames. The cure would be shorter if patients would have daily injections; but as soon as amendment of the symptoms begins they require less and less frequent applications of the remedy.

Pilocarpine seems to prevent relapses with greater surety than mercury or vegetable depuratives. But in respect to facility of application, certainty of result, and rapidity of cure, this medication is inferior to injections of corrosive sublimate, and often leaves behind it extreme sensibility to the influences of tempera-

ture, which obliges patients, after the cure, to keep their room for some time for fear of arthritic and rheumatic troubles.

According to the experience of Lewin and others, pilocarpine and its salts act especially on the salivary and sudoriparous glands. The symptoms which its use may cause, and which may oblige us to suspend the treatment are, nausea, vomiting, cephalalgia, cramps, trembling of the hands, swelling of the submaxillary glands, weakness, loss of sleep, erysipelas of the face, and stomatitis.

HYDRORRHŒA GRAVIDARUM.—M. Stapfer, in a *Thése de Paris*, has laboriously collected the materials that exist for arriving at some knowledge of this obscure subject (*Med. Times and Gazette*). The multitude of synonyms under which the symptoms have been described—dropsy of the womb, dropsy of the membranes, premature and spontaneous rupture of the membranes, false waters, metrorrhœa—indicate the different opinions that have been held. The name hydrorrhœa, M. Stapfer thinks, has been given to watery discharges resulting either from premature rupture of the membranes, from transudation of amniotic fluid, from rupture of a supernumerary ovum, from rupture of a cyst, from exudation from the uterine wall, from the decidua, the chorion, the amnion, the vessels or glands of the neck and body of the uterus. In the presence of such confusion, he thinks it impossible yet to frame a definition of the disease. From the evidence before him he comes to the following conclusions: The hydrorrhœa which appears in the early months of pregnancy, and which is the exception, seems only explicable by supposing the existence of a "*hydropérione*" between the decidua vera and decidua reflexa. That which comes on in the latter months results from a collection of fluid outside, or perhaps within, the chorion. This view Guillemeau and Mauriceau had been led to take by reasoning; it has been verified post mortem by Duclos. But it may possibly not hold good of every case. As to the origin of this fluid he can offer no hypothesis. The practical conclusions which he submits are the following: He thinks metrorrhœa (a word proposed by Chassinant) a better name than hydrorrhœa, because it indicates that the phenomenon has nothing in common with

the escape of the liquor amnii resulting from a premature rupture of the membranes. There are, perhaps, two forms of the disease—the one traumatic, the other catarrhal. It is very rare, and varies much in its clinical history. It is rarer the further the pregnancy is from term; but it has been observed as early as the fifth week. As a rule it interferes neither with the course of the pregnancy nor the development of the fœtus; but it may lead to abortion or to premature labor.

ŒSOPHAGISM.—Dr. Eloy concludes (*Gaz. Hebd.*) an elaborate paper on Œsophagism in these terms: As a result of the consideration of all the cases which we have cited, we come to the conclusion that the most efficacious means for combating this affection, when existing independently of all functional disturbance—that is, œsophagism from a nervous cause, whether local or general, are the employment of catheterism (with or without dilatation) as a mechanical agent, the hypodermic injection of morphia as an analgesic, and the bromide of potassium (either by the mouth or as an enema) as a moderator of the reflex power. Moreover, this last agent will facilitate catheterism, by imparting a greater toleration of the mucous membrane to the contact of instruments."—*Medical Times and Gazette.*

THE next annual meeting of the Illinois State Medical Society will be held in the city of Chicago, beginning on the 17th day of May next, and to continue during the following days till the business of the Society is accomplished. The committee of arrangements have secured the hall in the Methodist Church Block for the place of meeting, and hope that the attendance will be unusually large. All those expecting to read papers of any kind are requested to notify the chairman of the committee of arrangements, Dr. J. N. Hyde, of Chicago, at as early an hour as practicable. The profession in the city are requested to respond to the efforts of the committee toward making the forthcoming meeting as successful in a scientific and social point of view as is desired by all who are interested.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, April 4 and 18.
West Chicago Medical Society—Mondays, April 11 and 25.
Biological Society—Wednesday, April 6.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLII.—MAY, 1881.—No. 5.

Original Communications.

ARTICLE I.

SCHMIDT ON YELLOW FEVER. Read before the Chicago Biological Society, April 6, 1881. By S. V. CLEVENGER, M.D.

The medical world is not aware that an era has been reached in general pathology, but it is indeed true. The justly distinguished scientist and physician, H. D. Schmidt, Pathologist of Charity Hospital, New Orleans, has gathered together the results of a labor extending through a number of years, in a volume entitled, "The Pathology and Treatment of Yellow Fever."

To glean an idea of the bearing this forthcoming work will have upon science and medicine, and to convince you of its value as a contribution to pathology in general, I must be allowed to present a little biography of its author, indicative of the route by which he approached his subject and his acquisition of the necessary scientific, literary and logical training, prefacing the little history by the statement that it required considerable effort to gather together the facts, and only by a threat of publishing the incomplete and less accurate details, could Dr. Schmidt be induced to revise the biography and furnish a list of his works.

Leaving aside his unguided studies of natural history during his boyhood, his systematic education began in 1853, with anatomy, chemistry and physiology, to which subsequently was added botany and comparative anatomy. His inherent inclination to the study of Nature in general led him to medicine, so he was in no hurry to obtain a diploma, and in consequence left the more practical branches of our profession untouched until 1856, and two years later he graduated in medicine. His familiarity from boyhood with the three great living languages, facilitated his acquisition of a classical education. Anatomy being his favorite study, he pursued it in all its various departments, special and microscopical, experimented in minute injections until he had become a master, made all sorts of preparations, and thus could not fail to become an anatomist in the fullest sense of the word.

Under the auspices of his good friend, Prof. Joseph Leidy, of Philadelphia, he constructed many large anatomical models, which may now be seen in the old University of Pennsylvania. These models won for him a wide reputation. Aided by Prof. Samuel Jackson, of that school, he entered upon microscopical anatomy in the spring of 1857, Prof. Leidy placing his "Natchet" microscope at his disposal. In Schmidt's paper on the hepatic lobule will be found a description of his microtome, invented for the original purpose of making sections of spinal marrow, but aiding him afterwards in discovering the biliary capillaries as the commencement of the hepatic duct. (*American Journal of Medical Science*, January, 1859.)

Queckett's section cutter being only for wood, it is probable that Schmidt's microtome was the first ever constructed for making sections of soft tissues. In 1857 he made a considerable number of experiments and observations for Prof. Jackson, on living animals—dogs, cats and hogs—concerning the digestion of the muscular fibers in the alimentary canal. After graduation, Schmidt was appointed Leidy's assistant and prosector, the same position which the latter once held under Prof. Horner. At the same time Schmidt acted as assistant demonstrator under Dr. Wm. Hunt. During 1858 and 1859 he was engaged in his researches into the histology of the liver, for which work he

invented the most useful and perfect injecting apparatus that ever has been seen.

In February, 1860, Schmidt left Philadelphia, being called to the Medical college of Alabama, by his friend, the celebrated Dr. J. C. Nott, of Mobile. Soon after he was induced to accept the position of prosector and demonstrator of anatomy in the New Orleans School of Medicine, at $1,500 per year (a large sum at that time), and he thus became a permanent resident of New Orleans. The civil war broke out, and a blank of five years was made in Schmidt's scientific career. Circumstances (above which the best and strongest are unable to swim, say what we may) found him in the Confederate army in the capacity of surgeon, without books or instruments, cut off from the scientific world. He spent his time in the discharge of his professional duties in hospital and camp, or in the neighboring forests in the study of plants and animals, often astonishing his surgeon-colleagues by his dissections of spiders or bony ears of mammals and amphibia by means of his pen-knife.

Upon returning to New Orleans, he was appointed Pathologist of the Charity Hospital, and besides this, he temporarily occupied the chair of Physiology in the New Orleans Medical School for Dr. A. C. Holt, who was prevented from lecturing by sickness. In the spring of 1866, Schmidt was attacked by rheumatism, which compelled him to resign his hospital position. In May, 1867, he regained health sufficiently to recommence general practice, and resume his favorite scientific studies, which he continued till 1874, when his old enemy, rheumatism, overtook him again, laying him up for seven long months and disabling him forever for the active duties of his profession. Dr. Schmidt is so very much disabled that it is positively painful to watch him endeavoring to make his old time delicate dissections and microscopic manipulations. Nevertheless he manages successfully to make as good sections and slides as any microscopist, and his drawings are faultless, both as to faithfulness to nature and artistic finish. The specimens I here exhibit were made by him, and they have elicited the admiration of our Illinois Microscopical Society, Profs. J. S. Jewell, Lester Curtis, Wm. A. Hammond, E. C. Seguin, E. C. Spitzka and others.

During his prostration, Schmidt wrote his American Neurological Society paper, on the "Structure of the Nervous Tissues and their Mode of Action." In October, 1877, just as his means were exhausted, by application of the most prominent physicians of New Orleans, he was re-appointed Pathologist of Charity Hospital, and it was in this capacity that he made his more recent investigations into the pathology of yellow fever, bringing to bear upon his researches the results of observations made during previous epidemics and the great skill and learning acquired through a life-long, earnest search for truth.

Schmidt's principal papers are:

1. "On the Minute Structure of the Hepatic Lobule, Particularly with Reference to the Relationship between the Hepatic Cells and the Canals which carry off the Secretion of the latter." (Illustrated with Thirty-three Figures.) Published in the *American Journal of Medical Sciences*, January, 1859. (This paper contains his discovery of the biliary capillaries.)

2. "Researches into the Pathology and Cause of the Present Epidemic, Ordinarily Called 'Yellow Fever.'" Published in the *Southern Journal of Medical Seicnces*, November, 1867. (Written during the epidemic).

3. "Microscopical Anatomy of the Human Liver. (Illustrated with Three Plates.) Published in the New Orleans *Journal of Medicine*, October, 1869, January and April, 1870.

4. "On the Origin and Development of the Colored Blood Corpuscles in Man." (Illustrated by Ten Figures.) Read before the Royal Microscopical Society of London, and published in its former organ, the *Monthly Microscopical Journal*, 1874.

5. "On the Construction of the Dark or Double-bordered Nerve Fiber. (Illustrated by Twenty-two Figures.) Published by the Royal Microscopical Society of London, *Monthly Microscopical Journal*, May, 1874.

6. "Synopsis of the Principal Facts, Elicited from a Series of Microscopical Researches upon the Nervous Tissues." Read before the Royal Microscopical Society of London, and published in the *Monthly Microscopical Journal*, July, 1874.

7. "On the Development of the Smaller Blood Vessels in the Human Embryo." (Illustrated by Nineteen Figures.) Read be-

fore the Royal Microscopical Society of London, and published in the *Monthly Microscopical Journal*, January, 1875.

8. "On the Structure of the Nervous Tissues and their Mode of Action." Published in the Transactions of the American Neurological Society, Vol. 1, 1875.

9. "The Development of the Nervous Tissues of the Human Embryo." (Illustrated by Twenty-six Figures.) Published in the *Journal of Nervous and Mental Disease*, July, 1877.

10. "The Structure of the Colored Blood Corpuscles of *Amphiuma Tridactylum*, the Frog and Man." (Illustrated by Fifty-eight Figures.) Taken as read before the Royal Microscopical Society of London, and published in the Journal of the Royal Microscopical Society, May and July, 1878.

11. "Case of Repeated Attacks of Apoplexy, with Aphasia." (Illustrated by Five Figures.) Published in the *Journal of Nervous and Mental Disease*, July, 1878.

12. "On the Structure and Function of the Ganglionic Bodies of the Cerebro-Spinal Axis." (Illustrated by Fifteen Figures.) Published in the *Journal of Nervous and Mental Disease*, January, 1879.

13. "On the Pathology of Yellow Fever." Published in the New York *Medical Journal*, February, 1879.

14. "On the Nature of the Poison of Yellow Fever and its Prevention." Published in the New York *Medical Journal*, May, 1879.

Dr. Schmidt has a host of warm, personal friends in the profession in all parts of the world. His researches are standard topics in our better class of text-books.

It is notorious that no one can succeed as a scientific man, and at the same time earn even a respectable living, without assistance. It is in obedience to the law of labor division. How is it possible for a nerve cell to exist if the blood corpuscle did not carry it oxygen, and the tissues from which it emanated afford it support? Dr. Schmidt has been so engrossed in his scientific labor that to-day he finds himself fifty-six years of age, prostrated in health, with a family to support, and very little to cheer his declining years in the way of a pecuniary outcome for work that not one man in ten million is capable of doing, and

few indeed have done so earnestly and honestly, and with such purity of motive. In a few hundred years the world will appreciate these delvers after truth, who are content with truth only and nothing else, and who in their detestation of humbuggery, avoid the conspicuousness which leads to affluence.

The merits of the work on Yellow Fever, which I here present, you may judge for yourselves.

It is through its sale by subscription and wholly upon its merits as a scientific work, and as a genuine contribution to knowledge, that some recompense is expected for this life of toil.

At a meeting of the Chicago Biological Society, April 6, 1881, after the presentation of the foregoing paper, accompanied with lithographs and microscopic slides prepared by Dr. Schmidt, extracts from his manuscript work were read, and the following resolution passed:

"*Resolved*, That the Society cordially endorse the work of Dr. Schmidt, and recommend the publication of the same by subscription under its auspices; and that its treasurer be made the treasurer of the necessary subscription fund, and be held responsible to Dr. Schmidt for all subscriptions received by the former."

It was also "*Resolved*, That Dr. Clevenger be requested to publish his paper, as read during the evening, in the CHICAGO MEDICAL JOURNAL AND EXAMINER, as preliminary to the appearance of Dr. Schmidt's work.

In accordance with the above resolution, the work of Dr. Schmidt will appear in monthly serial parts in the CHICAGO JOURNAL AND EXAMINER until completed.

The subscription price will be $3.00, *which may be sent either directly to* DR. H. D. SCHMIDT, 263½ *Canal St., New Orleans, La., or to*

ROSWELL PARK, M.D.,
Sec'y and Treas. Chicago Biological Society,
1558 Wabash Ave., Chicago.

THE

PATHOLOGY AND TREATMENT

OF

YELLOW FEVER;

WITH SOME REMARKS UPON

THE NATURE OF ITS CAUSE AND ITS PREVENTION.

BY

H. D. SCHMIDT, M.D.,

PATHOLOGIST OF THE CHARITY HOSPITAL OF NEW ORLEANS; MEMBER OF THE ACADEMY OF THE NATURAL SCIENCES OF PHILADELPHIA; OF THE AMERICAN NEUROLOGICAL ASSOCIATION; OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE; HONORARY MEMBER OF THE NEW ORLEANS MEDICAL AND SURGICAL ASSOCIATION, ETC., ETC.

With Five Illustrative Plates.

CHICAGO:

THE CHICAGO MEDICAL PRESS ASSOCIATION.

1881.

Entered according to Act of Congress, in the year 1881, by H. D. SCHMIDT, M.D., in the office of the Librarian of Congress, at Washington, D. C.

This Work I Dedicate

TO MY DISTINGUISHED PRECEPTOR AND FRIEND,

PROF. JOSEPH LEIDY, M.D.,

OF THE UNIVERSITY OF PENNSYLVANIA,

WHO FIRST TAUGHT ME THE PRINCIPLES OF EXACT SCIENCE,

AND WHOSE SYMPATHY AND KINDNESS

HAVE BEEN TO ME,

IN ALL THE CONJUNCTURES OF LIFE,

A NEVER-FAILING

Solace and Support.

PREFACE.

In preparing this Treatise on Yellow Fever, the object I have kept steadily in view, has been to draw as distinct and correct a sketch of its various pathological phenomena, and their mutual relations, as our present knowledge of the disease permits.

Though I indulge the hope that my purpose has been to some extent accomplished, I am not blind to the numerous and important gaps which are left, to be filled, hereafter, by further systematic investigations. But imperfect as the present work must, of necessity, be, I trust it will serve as a guide to the practicing physician in his efforts to master this most malignant disease.

While the observations of the clinical phenomena were chiefly made at the bedside of my private patients during several epidemics, the pathological studies were pursued, for the most part, in the dead-house and pathological laboratory of the Charity Hospital of this city; an institution which, for the study of yellow fever, probably offers more favorable opportunities than any other situated in the yellow fever zone.

Having on several occasions been disappointed by lithographers making inaccurate copies of my original pencil-drawings, I have made the attempt to lithograph the illustrations accompanying this work, upon the stone myself. Though they may not be finished as exquisitely as by the hand of a first-class professional artist, I have, at least, the satisfaction of knowing that they represent the tissues, accurately, as I observed them under the microscope.

NEW ORLEANS, LA., May, 1880.

CONTENTS.

INTRODUCTION .....

CLINICAL PHENOMENA, OBSERVED DURING THE COURSE OF THE DISEASE .....

PATHOLOGICAL ANATOMY:

1. Condition of the Surface and Internal Organs of the Body, as revealed by the Autopsy.....
2. Pathological Changes, occurring in the Tissues and Organs during the Course of the Disease, and revealed by Microscopical Examination.....

GENERAL PATHOLOGY.....

REMARKS ON THE PROBABLE NATURE OF THE INFECTIOUS POISON OF YELLOW FEVER.....

TREATMENT.....

REMARKS ON THE PREVENTION OF YELLOW FEVER.....

INTRODUCTION.

There are few infectious diseases which have engaged the interest of medical men as much as yellow fever. In consequence, the literature of this disease, beginning in the seventeenth century and extending to our time, has assumed very considerable dimensions.* But extensive as this literature appears, it has, in reality, but little advanced our knowledge of the true pathology of this disease, for the reason that the authors, especially the older ones, had contented themselves with basing their pathological theories chiefly upon the clinical phenomena observed at the bedside, or, at the utmost, upon the macroscopical examinations accompanying the autopsies, which, as may be presumed, were not always made in the systematic style and manner essential to an

* The works and monographs treating upon yellow fever, and composing the Bibliography of Dr. *La Roche's* great work on this disease, *alone*, amount to *nine hundred and seventy-five.*

accurate scientific investigation. Accordingly, the authors principally confined their writings to a description of the history of the disease, or to the observations which they made at the bedside, and from which they formed their various speculative theories as to its probable cause.

From these remarks, however, it must not be inferred that our predecessors were inferior students or observers, for their clinical observations have in most points been corroborated by our own; their deficiency of observation was only due to want of acquaintance with those important pathological facts, elicited chiefly by the aid of the microscope in more recent times; for, twenty-five years have hardly elapsed since this instrument was first used to demonstrate the structural changes taking place in various organs during the course of yellow fever. In judging, therefore, of the merits of our predecessors, the rapid progress made in our own time in human physiology and pathology, upsetting many of the older theories, must be taken into consideration. Thus, the former theories of the processes of fever and inflammation have been placed upon different bases, greatly by the labors of Virchow. The febrile process was still shrouded in mystery, until, not many years ago, by numerous experiments relating to the interchanges of matter and the production of heat in the blood during this process, more light was thrown upon it. With the knowledge of modern pathology, therefore, the nature of yellow fever should now be more successfully studied, and means be devised to mitigate, at least, the disease, and deprive it of its terror. The systematic and thorough labors of European pathologists into the pathology and treatment of small-pox, typhus and typhoid fever, diphtheria, and other infectious diseases, may serve as an example. The late epidemics at New Orleans and Memphis have furnished sufficient material for such studies; and though we earnestly hope that these calamities will not be witnessed again, we must presume that sporadic cases of yellow fever will always occur to serve for more thorough and systematic studies than have hitherto been made.

The future studies into the pathology of yellow fever, however, in order to be productive, should be made with sufficient accuracy and system, as otherwise they could only give rise to false im-

pressions and confusion. The clinical phenomena of the individual cases, particularly the comparative state of the pulse and temperature, the gastric and nervous phenomena, the apparent condition of the bowels and bladder, and the frequency and character of the discharges from the latter organs should be closely observed and carefully noted, in order to be accurately compared with the pathological changes met with in the various organs after death. It is only from investigation of this kind, systematically pursued with the necessary accuracy of observation by trustworthy and experienced pathologists, who are, besides, thoroughly acquainted with the normal structure of the organs, that additional facts may be elicited. Such labors, however, are not as easily and as readily performed as is imagined. The possession and the knowledge of handling a microscope do not suffice for the correct recognition and determination of pathological changes, nor do they qualify every microscopic operator for labors as important as these; for, besides the experience essential to an accurate examination, the microscopist should also possess the necessary knowledge and experience in the proper preparation of the tissues, in order to preserve their integrity, or render them otherwise fit for microscopical examination. This knowledge is only possessed by a comparatively small number of those who use the microscope. Besides this, the investigator should possess a free and unbiased judgment, so that he may be able to look upon things as they really are, and examine the subject from different sides and in various manners, before he takes up the pen. Many false statements have been made for the want of the proper qualification for accurate scientific research, and sometimes, I am sorry to say, have been made for the sole object of public notoriety, the common tendency of the day. In such cases, much honest labor is required to remedy the confusion, and to erase the false impressions made upon the medical mind by inconsiderate and erroneous statements.

It must be obvious to every rationally thinking mind, that for the mitigation or prevention of yellow fever, an intimate acquaintance with the pathology of this disease is absolutely necessary, and must form the basis of all inquiries or investigations, made in relation to its cause. It is for the general want of this thorough

knowledge that so many speculative theories have arisen, concerning the nature of the cause of this disease. To obtain a more definite idea of the nature of the cause, however, is not the only object of acquiring a correct knowledge of the pathology of the disease, for there is another of more vital moment depending upon it, viz., its *rational treatment.*

Though in the more recent epidemics of yellow fever the treatment pursued by the better educated physicians has been more rational and less empirical than in former times, it cannot be denied that during an epidemic, when the demand for doctors is unusually great, a considerable portion of the medical forces called into requisition for treating and curing the many hundreds of cases, are but very imperfectly prepared for the proper discharge of such a duty; this portion of the medical profession, however, might be better qualified if they were a little more acquainted with the true pathology of the disease, a knowledge upon which they could more safely rely in the selection of their remedies than upon too great confidence in their materia medica. And it is the earnest desire of counteracting the pernicious influence of quackery, prevailing to a considerable extent during each epidemic of yellow fever, and which cannot be but humiliating to the better part of the medical profession, that particularly prompts me to write this treatise. For this reason, no space will be wasted in a description of the history of the disease, or of the various epidemics which have prevailed in the different localities of the globe, for these subjects have been commented on so often as now to be familiar to every physician and layman. On the contrary, I shall confine myself to practical points, which directly bear upon the final mitigation or amelioration of the disease, and take the reader at once to the bedside, where he may study the clinical phenomena. From the sick-room, I shall take him to the dead-house to witness the macroscopical examination of the organs by the autopsy, and thence to the pathological laboratory, to obtain a knowledge of the microscopical pathological changes which, during the course of the disease, have taken place in the various tissues and organs. After being thoroughly acquainted with these facts, we are ready to enter into a comparison of the clinical phenomena with the

pathological changes of the organs found after death, and synthetically to build up a general pathology, to be followed by a study of the probable nature of the cause, and the rational treatment of the disease. Lastly, after having thus studied and determined the character of yellow fever, and furthermore considered all points relating to it, we may venture to make a few remarks on its prevention.

CLINICAL PHENOMENA, OBSERVED DURING THE COURSE OF THE DISEASE.

Most authors state that an attack of yellow fever rarely announces itself by any prodromal symptoms, but, in most cases, rather takes the patient by surprise. There are, nevertheless, many cases in which the fever is preceded by certain initiatory symptoms, similar to those observed in other infectious diseases, and consisting in a general feeling of uneasiness or discomfort, a want of the usual appetite, a certain degree of lassitude, more or less headache, etc., symptoms depending upon a general depression of the nervous system, and due to the action of the specific poison of the disease. In this condition the patient may remain for many days, especially when the disease prevails in the form of an epidemic, and when his mind is troubled with the cares and duties of family or friends, or by the general suffering and misery of which he is a daily witness,—or, he may succumb after the lapse of only a few hours. Nor is there any particular time for the insidious attack to take place. The patient may be surprised in the morning, or during the day, while engaged in business, or in the evening, and even during sleep. Although in most instances the disease appears suddenly, I am inclined to think that this phenomenon is more apparent than real, and, with the exception of very slight ephemeral cases, it is more probable that the fever is generally preceded by some prodromal phenomena, which, slight as they may be, announce its approach, especially in cases of a more severe and typical character. As the physician rarely observes the disease at the moment when the patient is first conscious of it, these forebodings, the prodromes, are usually overlooked—the patient himself not having been aware of them, as his mind was perhaps too much engaged with

other matters. Thus, children are frequently attacked while playing with their toys, unconscious of the enemy who steals upon them and threatens their life; and, in many instances, the parents are not warned of the danger until they perceive the flushed face and heated skin of their child. It is generally accepted that in yellow fever, as in other infectious diseases, there is a period of incubation, which, commencing with the time of the absorption of the poison by the organism, may vary in length from a few hours to a number of days, or even weeks, during which time the poison, by increasing in quantity, is, so to say, getting ready for the attack. We may justly presume that such a period really exists, as there is no positive evidence that the fever ever suddenly appeared immediately after the exposure of the patient to the influence of the noxious poison; and, furthermore, that it appears quite improbable that the same poison should, during this whole period, remain dormant, without giving rise to any external phenomena indicating its presence in the system.

However slight or severe the prodromal phenomena may be, the real attack of the disease commences with the first symptoms of the febrile process. In most cases, perhaps, the disease is ushered in by an alternate sensation of chilliness and heat, associated with dryness of the skin; though many cases commence with a decided rigor. At the same time the patient suffers with pains in the head, back and limbs. The headache, which, to a slight extent, may already have existed as one of the prodromes, is chiefly confined to the forehead and temples—from which localities it may extend in an inferior degree over the rest of the head—and seems to be peculiar in character. The pain I experienced, even during a mere ephemeral attack of yellow fever, which I had, appeared to me more deeply seated than the neuralgic or rheumatic cephalalgia, from which I had occasionally suffered for a number of years; the sensation was more of a stinging or formicating nature. In most cases, the pyrogenetic or cold stage is of short duration, for soon the sensation of cold commences to alternate with one of heat, the latter predominating gradually over the former,—while a simultaneous rise of the temperature finally leads to the establishment of the hot stage.

Now, conscious of his state and confined to his bed, the patient presents an appearance of alarm and anxiety; he is restless, his face is flushed and his eyes appear muddy, owing probably to a slight œdematous swelling of the conjunctiva, produced by hyperæmia of that membrane. The tongue, at this stage, is, in many cases, found covered by a white, cream-like film, in others by a thin yellowish fur, while the point and edges remain free and are of a bright scarlet tint. As the disease progresses, the fever becomes more intense; the skin is very hot and dry; its temperature, though varying in different cases, always rising to 102–104° F. in the axilla. The pulse is full and hard, averaging from 100 to 130 beats per minute, the respiration hurried, frequently irregular. The pains in the head, back, muscles and joints of the limbs become more severe. The spinal pain, which is confined to the lumbar region, whence it may extend to the iliac portions, or to the whole of the pelvis, becomes almost intolerable, interfering with the rest of the patient, who, in seeking comfort, constantly changes his position in bed from one side to the other. Sometimes these symptoms are accompanied by gastric troubles, as nausea, and even vomiting of mucous or bilious matters, though, in general, the latter do not appear before the second or third day.

Accompanied by the above symptoms, the fever generally runs its course without abatement during the first day and night; but, severe as these symptoms may appear, there are, nevertheless, a considerable number of cases in which a favorable turn of the disease may already be observed on the day succeeding. In these cases the patient, usually after some free alvine and urinary evacuations, caused either by a simple effort of nature or by the effect of medicine previously administered, commences to perspire in the course of the night, and feels considerably relieved from his sufferings in the morning. At the same time, the pulse and temperature have considerably descended, so that before another night sets in the fever may have entirely subsided, leaving the patient in a state of nervous debility from which he may soon recover. These cases represent the *ephemeral* form of yellow fever, accompanied from its first appearance by violent symptoms, which, however, speedily subside without

leaving any serious traces behind. My own case was one of this kind.

But, in the majority of cases, the fever does not abate so soon, but continues to the third or fourth, sometimes even to the fifth day. The temperature, then, may still rise higher, to from 105–107° F., in exceptional cases even higher, while the fall of the pulse, ordinarily commencing on the second day, generally reaches the normal standard on the fifth or sixth day, and frequently even descends still lower. Gastric trouble, also, consisting in nausea, and a constant inclination to vomiting, if not present already, now commences. Generally, there is a sensation of a dull aching pain, or pressure in the epigastric region, arising from the irritation of the mucous membrane of the stomach, and caused by the now beginning hyperæmia of this organ; the nausea and inclination to vomit are also due to this condition. This painful sensation, however, is not in all cases increased when pressure is made by the hand upon the epigastrium. Still, the nausea, and the constant, often unsuccessful attempts to vomit, are very annoying, causing much suffering to the patient. If he succeed in his efforts to throw up anything from the stomach, which at this time is generally empty, the vomited matters are found to consist of a thin mucoid, sometimes ropy fluid, of a white and frothy appearance, frequently mixed with bile or small portions of undigested food; in some cases it is even mixed with pure bile, presenting, then, a green color. A microscopic examination reveals that this fluid is principally loaded with large flat epithelial cells, belonging to the scaly or squamous variety of epithelium, not derived from the epithelium of the stomach, but from that of the mouth, pharynx and œsophagus. Many of them are floating singly, but the greater part, adhering to each other in their former positions, still form small shreds of epithelium of different sizes. Others, again, are in a state of disintegration; their outlines have become faint, showing that their protoplasm is about to dissolve, resulting in the setting free of their contained nuclei and granules. It is from this source that the free nuclei and numerous granules floating in the liquid are derived. In some specimens of this frothy mucoid matter I have met with zoglœa

of micrococci, or with other bacteria; in other instances, however, these organisms were absent. In correspondence with the presence of the large epithelial cells, derived from a scaly epithelium, it will be found that by examining the fauces and pharynx, these parts, in some instances also the tonsils, are considerably congested, and I entertain no doubt that frequently the congestion extends farther down into the œsophagus. During the epidemic of 1867, I met with one particular case in which any liquid which the patient attempted to swallow never entered the stomach, but was invariably rejected before it passed mid-way of the œsophageal tube, the phenomenon depending very probably on a temporary stricture, produced by the swelling of the mucous membrane of the œsophagus; the difficulty was relieved by the application of a warm poultice. From the above examinations it may be presumed that the epithelial elements are surely derived from the congested parts, while the mucoid liquid may come from the stomach.

There are a number of cases, in which these gastric phenomena accompany the fever from its first appearance, but, generally, they manifest themselves on the second or third day. They should always be closely watched by the physician, and never be overlooked in the prognosis of the case; for the relation they bear to the final issue, in indicating the condition of the liver, as I shall show hereafter, is as important as that of the temperature, indicating the intensity of the fever.

The congestion of the conjunctiva, to which we ascribed the muddy appearance of the eyes on the first day, has now become more or less developed, giving to these organs a moist appearance. The fur of the tongue has increased in thickness, and has assumed a yellow or brownish tint. The patient is very thirsty, and constantly demands cold water to drink. This excessive thirst is usually referred to the disturbed circulation of the mucous membrane of the stomach, though I think that the fauces, pharynx and œsophagus may contribute their full share. Frequently, the water, after having remained a short time in the stomach, is thrown up again. The urine, which at first was natural in appearance, assumes now a more reddish tint, and, in some cases, it may be found to contain some albumen, even at

this early period. The bowels are usually costive. Quite frequently the patient complains of pain in the lower part of the abdomen, directly over the region of the urinary bladder, indicating that this organ also participates in the congestion generally observed in the mucous membranes, or in other secreting organs, a condition which I have found verified in a few instances by post-mortem examination. Fortunately, the congestion in the bladder is usually slight, the pain being soon relieved by the application of warm poultices, and often followed by a passage of urine. In many cases, the perspiratory glands of the skin have now resumed their function—in some instances to such a degree as to become excessive. Sometimes the perspiration is so profuse as not only to completely wet the patient's clothes, but also the bedding upon which he rests. It is a singular fact, which attracted my notice during the epidemic of 1867, that however profuse the perspiration might be, there was no abatement in the fever observed, the temperature of the skin remained the same, or even rose, while the pulse continued to beat with the same force as before. At this time, also—sometimes earlier, but generally when perspiration commences—a peculiar odor is perceived to emanate from the patient, and, moreover, a peculiar burning, stinging sensation is imparted to the points of the fingers when the moist and heated skin is touched, as is done in feeling the pulse. I have frequently felt this stinging sensation, after I had washed my hands and left the patient. The peculiar odor emanating from the skin, and which, according to some authors, is also perceived in the breath, has been noticed by a number of physicians, and by some even been regarded as pathognomonic of yellow fever, while others have not been able to detect it. The failure of the latter, however, may be due to their sense of smell not being sufficiently acute, a circumstance rendered more than probable in consideration of the greater or lesser difference surely existing with regard to the other special senses among different individuals. I can entertain no doubt of the existence of this odor, for I have perceived it distinctly, and without a previous knowledge of it, during the epidemic of 1867 and afterward; and it is also observed by the friends and nurses of the patient. But that a particular diagnostic value should be attached to it, I

would not venture to assert in face of the fact that similar odors are perceived in other acute infectious diseases, as small-pox, scarlet fever, measles, etc. In small-pox, the odor is very distinct, and may, as I know from experience, even be perceived before the eruption makes its appearance; to myself, however, a difference appears to exist between the odors of the two diseases.

The most important clinical phenomena, observed in the whole course of this disease, are certainly those arising from the noxious influence of the specific poison upon the nervous system. In fact, the nervous symptoms are, perhaps, the first by which the disease announces its approach, and are therefore prominent among the prodromes, manifesting themselves in the form of the slight headache and the general depression already referred to. When the real disease breaks out, these symptoms become more developed, and take a part in the chill or rigor; finally, however, after the commencement of the fever, they show themselves again in the restless condition of the patient. The severe pains in the head, spine, joints and muscles, and even the occasional spasms in the latter, especially indicate a strong afflux of blood to the cerebro-spinal axis, terminating, in most cases, in the establishment of a true hyperæmia, not only of the brain, but also of a portion of the spinal marrow; and, furthermore, as I shall show hereafter, of the thoracic and abdominal sympathetic ganglia. The steady progress of the hyperæmia is easily recognized by the pain in the head and spine increasing in severity, and giving rise to sighs and groans on the part of the patient. In correspondence with this condition, therefore, a slight delirium may in a number of cases be observed as early as on the first day; if not, it surely makes its appearance on the second, though it may be of a very mild character. In mild cases, it may only consist in irrational language or mutterings, uttered by the patient as he restlessly turns from side to side in a state of sleepy wakefulness; a state from which he may, however, be easily aroused when spoken to, and even return a rational answer. But, in many cases, the delirium becomes more severe, and frequently attains such a degree as to render the patient violent, necessitating the use of force to restrain him to his bed, and to protect him from injuries which he might inflict upon himself. In fatal cases, delirium is

rarely absent during the course of the disease. I am inclined to think that, with a very few exceptions, the fatality of the case always depends upon the hyperæmia of the brain.

Under these circumstances the second day and night pass away, and the third day arrives, when, perhaps in most cases, the febrile storm commences to subside. At the same time, the accompanying symptoms have also considerably abated, and the patient, greatly relieved from his pain and anxiety, feels comparatively comfortable. In many cases, however, the fever does not subside until the fourth or fifth day. Then, the above described symptoms continue with greater or lesser intensity, with the addition of others, such as temporary retention of urine, costiveness, etc. The urine, also, almost invariably now contains albumen. Frequently, the febrile symptoms commence to abate soon after a free evacuation of the bowels or bladder. With the abatement of the febrile process, the temperature also begins to fall, and the pulse, which, in most cases, commenced to fall as early as on the second day, continues its descent in the same proportion. Some slight cephalalgia, or some tenderness over the epigastric region may still exist. In favorable cases, convalescence now commences and may continue without any serious interruption, until the patient has been restored to his former health.

But, unfortunately, the disease does not run in all cases the favorable course above described. On the contrary, only too often, after the subsidence of the febrile storm, graver symptoms, more or less typhoid in character, appear. In such cases, the patient, as in those above described, though prostrated from the fever, feels, also, comparatively easy and relieved from his sufferings at the end of the febrile stage; very often the relief is so great as to induce him to think the disease has left him entirely, and that in a few days he will be able to resume his daily occupation. This condition, representing the so-called second stage, is very delusive, and may last from two to three, or twenty-four hours, sometimes even longer, when the symptoms return in another form, and the patient approaches the third stage of the disease. The fever then lights up; the temperature which had commenced to fall, may rise again; the pulse also becomes

accelerated, but instead of being strong and full, as in the commencement of the disease, it is now small and thread-like. The irritability of the stomach has increased, and is again accompanied by the vomiting of a mucoid fluid mixed with particles of food previously taken, sometimes also with flakes of black hæmorrhagic matter, or even with pure blood. The act of vomiting, however, is not performed with the same violence as before; the matters are easily thrown up. The stomach rejects anything in the shape of food or drink. At this time, also—though frequently earlier—the conjunctiva commences to present a yellowish tint, which, as the disease advances, increases in intensity. The same tint is observed in the scanty urine, which now almost invariably contains albumen. A microscopical examination of this fluid frequently shows small granular masses, and according to some authors, albuminous casts besides. The skin, especially that of the face, neck and shoulders, also assumes the yellowish tint, which, as the disease progresses, gradually extends downward over the whole body. In many instances, hæmorrhages occur from the nose and gums, and even from the ears and the conjunctiva. The tongue is generally dry, and the yellowish fur covering it during the first stage of the disease, has now assumed a dirty brownish tint; the edges, if clean, are, together with the gums, of a purplish color. The nervous symptoms are rendered more prominent; the patient becomes again more restless, and the delirium returns; but as the patient's strength is now wasted, the latter has lost part of its violence, though, sometimes, it retains its character furious up to death. Frequently, muscular spasms of the limbs and subsultus tendinum occur. As the vomiting continues, the flakes of black hæmorrhagic matter gradually increase in amount, until at last a large quantity of them, mixed with a thin mucoid fluid, and known as "black vomit," is ejected at once. Often, with the ejection of this fluid, the violence of the symptoms is reduced, and the patient, though comparatively prostrated, feels relieved from the sensation of pressure, or tightness over the epigastric region.

Before continuing our sketch of the clinical symptoms, it may be proper to first describe the microscopical character of the "black vomits." When a fresh specimen of black vomit, ejected

from the stomach of a severe case of yellow fever, is, for a short time left standing in a bottle, it separates into two parts, the one of which represents a thin mucoid fluid, while the other, consisting of its solid parts and resembling coffee-grounds, settles to the bottom of the vessel. The mucoid fluid represents most probably the water with the liquid food, previously introduced into the stomach of the patient, mixed with the mucous secretion of that organ. The solid matters of the vomit, bearing a more important relation to the pathology of the disease than the fluid, consist, besides the disintegrated matters of food, such as fat, muscular fibers, etc., mainly of the constituents of blood and epithelium. A part of these constituents of the blood is represented by a considerable number of blood corpuscles, which, however, are now deprived of their coloring material, the hæmoglobin, appearing, therefore, perfectly colorless. They are characterized by a delicate though well defined double contour, and, in some cases, have preserved their normal diameter, while in others they have more or less decreased in size. In all the numerous specimens of black vomit which I have examined, the blood corpuscles were always found colorless, without regard to their diameter. This phenomenon is easily explained in considering the facility with which these bodies part with their coloring material, when surrounded by a fluid of a lower specific gravity than that of the liquor sanguinis. The water with which the patient allays his thirst, and of which a larger or smaller quantity is almost always present in the stomach, is alone sufficient to deprive the blood corpuscles of their hæmoglobin; though it is very probable, as will be seen hereafter, that these corpuscles part with a portion of their coloring matter while still contained, in a state of stasis, in the interior of the minute vessels, and before a rupture of the walls of the latter may have occurred. The other part of the constituents of the blood, found in the vomit, consists of the free hæmoglobin, or hæmatin, presenting itself in the form of yellow amorphous patches. Generally, these patches are found in company with smaller or larger groups of blood corpuscles, or even enclosing them, from which circumstances it may be presumed, that the escape of the coloring material from the corpuscles occurred already in the interior of the vessel, and during a state

of stasis. In some specimens, the yellow patches are observed to contain minute floccules, or masses of organic granules, probably derived from the mucous membrane of the stomach. Besides these elements, a number of colorless blood corpuscles, and free epithelial cells, or their remains, are also met with.

In order to prove that these yellow patches in reality represent the coloring matter of the blood corpuscles, instead of bile, as has been stated by some observers, I filtered a quantity of fresh black vomit, and allowed the solid parts remaining behind upon the filtering paper to dry, for the purpose of applying the well known test of *Teichmann*. Accordingly, I placed a small portion of the dried material—about the size of a head of a pin—upon a glass slip, and, after rubbing it up with a trace of table salt into a fine powder, put a covering glass upon it. A drop of glacial acetic acid was then allowed to run under the latter, and the whole preparation gently warmed over the flame of a spirit lamp, until small bubbles of gas were observed to be formed. A microscopical examination, made after the preparation had cooled, showed a number of minute crystals of the muriate of hæmatin, the so-called *hæmin* crystals of Teichmann, universally regarded as the surest proof of the presence of hæmatin. In some specimens of black vomit, however, I have found hæmatin crystals already formed.

Almost in all specimens of black vomit, certain fungous growths are met with. The one most frequently found is the yeast plant, or *Cryptococcus cerevisiæ*. If the specimen is left standing, other species of fungi will be developed. Very often, also, colonies, or so-called *zoglœa of micrococcus* are observed in fresh specimens; free oscillating sphero-bacteria, however, are rarely seen, unless the fluid has been standing for some hours, or longer. Some importance has been attached to the presence of these organisms in black vomit, and attempts have been made to establish a relationship between them and the cause of yellow fever. In the beginning of the epidemic of 1867, the germ theory, which, not long before, had commenced to attract the attention of medical men, had also taken root in my mind, inducing me not only to search for the germs in the very numerous specimens of black vomit which I then examined, but, moreover,

upon the various mucous membranes of the body in the numerous autopsies which I made. Failing, however, in my attempts to discover anything in support of this theory, I did not hesitate to discard it; for, as regards the fungi met with in the black vomit, it is obvious that the germs, from which they are derived, reach the stomach with the food and drink, and with the saliva of the patient, where they undoubtedly find the necessary conditions for their development.

In continuation of our sketch of the symptoms observed in the third stage of the disease, we may state that severe and dangerous as they appear to be, and really are, they do not necessarily determine the death of the patient. On the contrary, even at this period, the disease may still take a favorable turn. In such a case, the fever, which may have lasted about twelve hours, —rarely more—gradually subsides, and with it all other symptoms assume a milder character. The skin becomes moist, the pulse falls again, though remaining very feeble and compressible. The gastric symptoms have greatly diminished, the vomiting has ceased, and only some occasional eructations may be observed. The temperature, though still above 100° F., has fallen considerably, the defervescence continuing until convalescence is established. The delirium also passes, leaving behind a moderate cephalalgia. The most prominent symptom now left is the great nervous prostration. The nervous energy of the patient has been wasted, and all that remains scarcely suffices for the ordinary supply of the various organs of the body. Nevertheless, with all this damage, the patient may rally, and with the proper nursing, and careful treatment, convalescence may be established, though, in most of these cases, it is tardy, and often accompanied by other complications, such as diarrhœa, abscesses, periostitis of the tibia, suppurative parotitis, etc. I have seen a number of cases recover after black vomit had occurred, particularly children.

If, on the other hand, no amelioration of the disease occurs in the beginning of the third stage, the symptoms above described assume a character still more grave. The temperature rises still higher, while the pulse often sinks, sometimes to rise again before death. Not only more black vomit is thrown up from the

stomach from time to time, but, in some cases, also, the same black matters are passed from the bowels. The urine becomes very scanty, sometimes suppressed for many hours—from twelve to twenty-four, or even forty-eight hours; and if voided, it is in an abnormally small quantity, and muddy in appearance. In exceptional cases, the suppression of urine lasts until death. The hæmorrhages from the nose, gums, fauces and tongue become more frequent, and others, from the kidneys and bladder, may take place, the blood escaping from the urethra. The tongue is hard and dry, covered with a brown or blackish fur, sometimes scabby; the gums are swollen, and of a purplish color, frequently covered with sordes. In many cases hiccough appears; the patient now approaches collapse.

In a number of cases, especially those terminating fatally in the early part of the third stage, the delirium remains active until death approaches. Then, the patient is very restless, constantly attempting to rise, and if succeeding, soon falls back upon the pillow, when life may be suddenly extinguished; while, in other instances, the delirium continues in a low and muttering form until death.

In cases where the third stage extends over several days, the symptoms, already mentioned, continue alternately with more or less violence until collapse sets in. The patient then breathes with difficulty, sending forth deep sighs and moans; often, his face is of a dusky color, though the whole skin has assumed an orange-yellow; his countenance is sunken, his tongue tremulous. He lies there, with dry, scabby lips, and frequently with a bloody mucoid liquid escaping from the corners of his mouth; indifferent to, or, more truly, unconscious of his condition, muttering incoherent sentences, until death relieves him from his sufferings.

The above sketch of the clinical symptoms, observed in the course of yellow fever, as it occurs in the average number of cases, I do not consider entirely complete; some additions will, therefore, be demanded to fill up the vacant spaces, though not to such an extent as to embrace all the various exceptional forms in which the disease may appear, and which mainly depend upon the age, sex, temperament, peculiar predisposition and other previously existing conditions of the patient.

Thus, as regards the temperature, it remains to be mentioned that certain regular fluctuations are observed, consisting in slight evening exacerbations and morning depressions; but, these may correspond with the diurnal fluctuations of temperature observed in health, and they cannot be looked upon as regular remissions; especially as they are equally observed in other "continued" fevers. Although during the epidemic of 1867, and at other occasions afterward, I made use of the thermometer for the purpose of estimating the intensity of the fever, it was done without regularity and system, and no notes were taken from which accurate deductions might have been made. To the extent of my knowledge, it was by *Dr. J. C. Faget*, of this city, that the first systematic observations were made regarding the rise and fall of the temperature of the body, as it occurs during the course of yellow fever; and, judging from the results of his observations, together with those of other observers, the elevation and depression of heat, and the rise and fall of the pulse during the febrile process, appears to take place after a certain type, pathognomonic to this disease. In a treatise, entitled "*The Type and Specificity of Yellow Fever, etc.*," published in 1875, Dr. Faget presents the rise and fall of the temperature and pulse—marked by dots and lines, upon systematically arranged charts—of thirty cases of yellow fever, collected and prepared by himself, Drs. *Tuatre* and *Layton;* and, furthermore, the charts of seventy-three cases, prepared from the tables of *Dr. Dudley S. Saunders*, published in his article, entitled "Observations on the Yellow Fever of 1873. Epidemic at Memphis, Tenn."* The deductions Dr. Faget made from his observations were: "That the course of the temperature in yellow fever, during the epidemic of 1870 in New Orleans, was characterized by a *single paroxysm*, the appearances of which, from one to three days in duration, was followed, without a stationary stage, by a defervescence of from four to seven days." Regarding the pulse, he states: "The maximum average being 120 pulsations on the first day; on the second day the pulse beats ten or twelve times less; in another twenty-four hours there are a dozen pulsations fewer;

* New Orleans *Medical and Surgical Journal*, May, 1873.

the *fall continues* on the following days, but with a *progressively decreasing rapidity;* in general, on the fourth day, the pulse oscillates toward eighty, and, with this figure, it has still hardly reached half of its return course, which will be completed only toward the seventh or eighth day; the descent will then go on still further, and toward the tenth day an astonishing *minimum* will be occasionally obtained; in some patients in convalescence, the pulse does not exceed forty in a minute." The average figures of the Memphis charts correspond in the main with those of the charts of Dr. Faget, and his statements, regarding the temperature and pulse in yellow fever, appear to be further corroborated when compared with the tables published by *Dr. Jos. Jones*, and prepared from his own records of ninety-three cases, and from the dates, obtained at the Charity Hospital by some of the resident students, of ninety-five cases.* Slight deviations depending on various causes, of course, may be observed to occur in different cases; yet, on the whole, the rule, laid down by Dr. Faget, seems to be true, and, if furthermore confirmed by numerous additional observations, will greatly assist in the diagnosis of the disease, even as early as the second day, when the pulse commences to fall, while the temperature rises.

Much importance has always been attached to the interruption or failure of the urinary passages during the course of yellow fever; that is, at a time when, under ordinary circumstances, they should appear. And it is not only the physician who is anxious to see the kidneys and bladder continue to perform regularly their functions, but the nurses and friends of the patient, also, knowing from hearsay the danger associated with a suppression of urine, watch the performance of the urinary function with interest and anxiety, and seldom fail to report on this subject to the physician, if he should forget to make his accustomed inquiries. Suppression of urine, it is true, is one of the most dangerous symptoms met with in this disease, and, if not relieved, will be followed by the death of the patient. But, I am inclined to think, that in many cases in which the non-appearance of the urine is ascribed to a suppression of the func-

* *Jones*—"Yellow Fever Epidemic of 1878 in New Orleans." New Orleans *Medical and Surgical Journal*, June, 1879.

tion of the kidneys, this secretion is only retained, small as it may be in quantity, in the bladder. To this view I have been led by my macroscopical and microscopical examinations of the urinary bladder and kidneys. Whenever a suppression of urine really occurs, it is always during the latter part of the third stage of the disease, and in protracted cases, after sufficient time has elapsed for the destructive pathological changes in the parenchyma of the kidneys to take place. A temporary retention of urine often occurs during the first stage of the disease, when it may depend on an irritation of the mucous membrane near the outlet of the bladder, exciting the muscular fibers of the sphincter to contraction. The relief obtained by the application of warm poultices over the region of the bladder seems to corroborate this view. If the retention occurs after the febrile stage, when the nervous energy of the patient is greatly depressed, the phenomenon may be owing to a debility, or even temporary paresis of the muscular element of the bladder itself. That such a condition may exist becomes very probable in considering the spinal hyperæmia in the lumbar region, the existence of which is not only indicated by the excessive pain in this region during life, but, moreover, confirmed by the hyperæmia, observed after death in the pia mater of the spinal marrow of the same region, extending even to the marrow itself. The details of this subject, however, I shall discuss more fully in connection with the pathology of the disease.

In regard to the "black vomit," it should be mentioned, that not infrequently fatal cases of yellow fever are met with, in which this clinical phenomenon does not manifest itself, though all other characteristic symptoms of the third stage, indicating that a hæmorrhage from the mucous membrane of the stomach must probably have taken place, may be present. An autopsy, made in such cases, will invariably reveal the presence of a larger or smaller quantity of the same black matters in the stomach; sometimes also in the intestines. The retention of these matters in the stomach during life is obviously owing to an excessive debility, not only of the muscular coat of that organ, but of all other muscles concerned in the act of vomiting, corresponding to the general nervous exhaustion of the patient.

Although our description of the symptoms accompanying yellow fever is applicable to the great majority of cases, which during an epidemic come under the observation of the physician, there are nevertheless a number of cases met with, in which the symptoms do not present themselves in the general order as above described. Such deviations from the general type, however, will always be found to depend on peculiar conditions, predispositions, or even idiosyncracies of the patient, modifying the ordinary course of the disease. To regard these various modifications as separate forms of the disease, as has been done by a number of authors, would, indeed, render the whole subject almost too complicated for the practicing physician; and it must, therefore, be left to his fundamental knowledge and sound judgment to distinguish between these forms, and, accordingly, shape his treatment. A mere distinction between a sthenic and an asthenic, or adynamic form, would suffice for all practical purposes.

A peculiar form of yellow fever, termed by La Roche the "walking grade," has been mentioned by authors, and is frequently spoken of by physicians, though I have never met with it myself. In this form, using La Roche's description, "the patient, though sometimes in bed, is found more frequently sauntering about his room; and, indeed, he at times walks about the street for recreation or business; and though, in some instances, he states that he is weak, in others he exhibits at intervals, or throughout, marks of considerable muscular strength. He complains of nothing, denies his being ill, amuses himself in reading or otherwise, and, to a casual observer, appears to be slightly, if at all, indisposed. To the physician, however, matters appear in a different light; for he may gradually observe that the patient exhibits an unusual expression of countenance—dull and listless. The eye is watery; the complexion is almost mahogany color, while the pulse is found exceedingly weak, and even totally absent. Black vomit overtakes him, even while occupied in the way mentioned, or very soon after, and death speedily ensues."

In considering the symptoms, mentioned in the foregoing description, they are easily recognized as belonging to the second or third stage of the disease; and by a closer inquiry into the

circumstances of such cases, it would most probably be found, that the patient, though really feeling ill, by some peculiar notion or caprice of his own denies this fact, while by the strength of his will he manages to walk about, and attend to his daily occupation. We may further presume, that a febrile stage has previously existed, though in a very mild form, enabling the patient to deceive himself and his friends; and, moreover, that the poison of the disease, while affecting the brain very slightly, impressed its noxious influence more upon the sympathetic ganglia, affecting the heart, liver and stomach in such a degree as speedily to interfere with the functions of life.

As a counterpart of these "walking cases," those may be mentioned in which the patient, by an extreme fear of the disease, exhausts his nervous energy, and reduces his system to a condition most favorable to the reception of the noxious poison. A remarkable case of this kind I met with in my own practice during the epidemic of 1870. It was a young man, a German, of about twenty-three years of age, who consulted me at my office, believing himself attacked by the yellow fever. By examination, I found him apparently in good health, with no symptom of any fever about him capable of detection by the touch, as the thermometer was not used. Notwithstanding, I failed in my endeavors to convince him of this fact; and my advice, to put his mind at rest by dismissing his gloomy thoughts, made no impression upon him. He left my office, and before night sent for me to visit him at his room. I found him in bed, and in the same apparently healthy condition. No symptom of disease could be discovered, but he was still deaf to the encouragement he received from his friends and myself, calculated to dispel his fears and arouse his spirit. The next day, during which he took but little nourishment, passed in the same manner; but, on the third day, fever appeared, which, however, never became excessive. On the contrary, refusing all nourishment, and evincing a considerable apathy for everything around him, he gradually passed into a lethargic condition from which no moral or physical stimulants could arouse him. On the fourth day, tenderness by pressure upon the stomach was detected, followed by black vomit and

symptoms of collapse in the evening; he died during the night in a state of coma.

Although in this case no external symptoms of the disease could be detected during the first two days, we are nevertheless justified in presuming that the poison primarily affected the mind of the patient, impressing him with the idea that something was wrong with him, and then slowly exerted its noxious influence upon the abdominal organs, and probably also upon the heart.

Another form of yellow fever, mentioned by La Roche, is the "apoplectic grade." In cases of this kind, "the patient," as this author states, "is struck down suddenly, as if by lightning, with stupor or coma, and death, preceded by convulsions, soon follows. In other instances, the progress is less sudden. Without even the slightest premonitory symptoms, the patient is in an instant seized with vertigo and confusion of mind. He complains of dull pain and fullness of the head, together with spasmodic pain and considerable debility in the legs; coldness, debility, and a feeling of uneasiness in the spinal region. The pulse varies in different cases in point of fullness and frequency, but is always weak, and finally becomes faltering. The skin is cold, sometimes dry and flabby, but generally unctuous or bedewed with cold perspiration; the stomach is sometimes irritable. In the meantime, the patient lies as if stunned, with dilated pupils, and an expression of gloom on his countenance. From this unpromising state an effort of reaction occasionally takes place, but this scarcely ever leads to a successful result. More generally, the patient becomes perfectly comatose; the eyes assume a glassy appearance, the pulse fades away, involuntary discharges and profuse hæmorrhage supervene, and death soon ensues."

In considering the symptoms of these so-called "apoplectic" cases, I cannot but think, that, perhaps in all of them, a diseased condition of the anatomical elements of the brain, especially of its minute blood-vessels, has existed previously to the attack of yellow fever. This view is corroborated by my discovery of fatty degeneration of the nuclei of these vessels in a number of patients who died from yellow fever. In face of the fact, however, that a rupture in the walls of the minute veins of the mucous membrane of the stomach really does take place in the course of this

disease, I would not venture to deny such an occurrence in the brain, giving rise to the capillary form of apoplexy. But as, to the extent of my knowledge, there is no record of apoplectic foyers discovered in the brain after death from yellow fever, I presume that the symptoms attending these "apoplectic" cases may be rather attributed to a hyperæmia of that organ, of a very high degree, together with a direct action of the noxious poison upon the substance of the cortex cerebri itself.

In viewing in this light the various forms of yellow fever, described by a number of authors, it becomes obvious that they are equally produced by one and the same poison, affecting the organism under different conditions, but always accompanied by one or more of those symptoms characteristic of the disease. None of these forms bears a peculiar, distinctly defined character; for, if this were the case, it might also be presumed that each separate form of the disease depended on a separate form, or state of the poison. Whatever, therefore, the conditions of the organism may be when attacked by yellow fever, the latter will always show its own and distinct character, expressed by its pathognomonic symptoms during life, and also by the pathological condition of the various organs, observed after death.

When yellow fever supervenes upon another pre-existing disease, it may modify the accompanying symptoms of the latter, though it will always impress upon it its own peculiar marks. In another section of this treatise, I shall speak of a case bearing upon this subject.

[TO BE CONTINUED.]

Article II.

Remarks on Sources and Varieties of Vaccine Virus.

By Oscar C. DeWolf, M. D., Health Officer of Chicago.

In the January number of the *N. Y. Medical Abstract* is a brief review of a late discussion on vaccination by the Medical Society of Kings County.

Dr. J. H. H. Burge, in closing the discussion, makes the fol-

lowing inquiry: "What virus have we now in use in this country?" And he answers, "Probably six or seven kinds:

"1. We have, I hope, though I don't know where to obtain it, virus direct from the natural vaccination.

"2. We have humanized virus from the natural bovine vesicle.

"3. A virus resulting from humanized virus introduced again to the system of the cow, and brought back to man.

"4. Probably a virus resulting from inoculation of the cow with small-pox matter.

"5. It is not impossible that we have a virus from other vesicular diseases in the cow resembling vaccinia.

"6. We have the calf-to-calf virus, originally from the true natural kine-pox, and descending through a long line of induced cases of vaccinia."

If this statement is true it is a grave impeachment of vaccine cultivators in this country, and the subject is of so much importance that I trespass on the courtesy of this society to briefly present the result of such facts as I have been able to gather.

The cultivation of vaccine matter by continuous calf-to-calf inoculation from which animals, as an endless source of supply, virus could readily be obtained, was practically unknown to the profession before the year 1866. Long previous to this date, however, animal vaccination had been practiced in Italy, where Troja, of Naples, conceived the idea of taking the virus from the arm of a child and vaccinating the heifer, which was perpetuated through a series of animals. This was simply retro-vaccination, *i. e.*, implanting upon the animal the same vaccine disease from the child which Jenner had methodically transferred to this child from the animal.

To this date, about 1803, we have no knowledge of the so-called spontaneous appearance of cow-pox in any animal other than those observed by Jenner in England late in the previous century.

Negri, the neighbor and successor of Troja, followed in the steps of his master, vaccinating such people as would submit to the operation, until about the year 1820 he discovered a case of natural cow-pox in Calabria, and thereafter propagated entirely

from this source. For a subsequent period of 44 years animal vaccination was confined entirely to Italy.

In 1864, Dr. Palasciano, of Naples, addressed the Medical Congress, assembled at Lyons, on the subject of animal vaccination as practiced by his townsman Negri. So impressed was one of his listeners, Dr. Lanoix, that he visited Naples immediately to study animal vaccination under Negri. On his return to France he brought with him a calf nine months old vaccinated by his teacher. Stopping at the railroad station at Lyons only long enough to permit Dr. Diday to take sufficient matter from the heifer to vaccinate several children, he hastened with his charge to Paris. Here he attempted for nearly two years to interest the profession and the public in his work, with only a moderate success.

There was a great deal of doubt expressed in regard to this Neapolitan stock of vaccine virus. In spite of all the assertions to the contrary the general opinion declared that it was a case of retro-vaccination, and not true heifer-transmitted cow-pox.

And now appears the famous heifer from Beaugency, which has revolutionized public and professional opinion touching animal vaccination.

It is idle to speak of any specific infection as originating spontaneously, yet in referring to this heifer, historians treat her disease as appearing spontaneously, and we continue the fiction.

A woman (Dronin) living in the town of Beaugency, in the department of Loiret, fifteen miles from Orleans, visited her yard as usual, on the morning of March 28, 1866, to milk her cow. The heifer was thirty months old, white, of the Breton breed, and had dropped her calf four months previous. She was astonished to find her less gentle than usual, and upon examination discovered some remarkable vesicles on the skin of the udder at the base of the teats. A veterinary surgeon recognized at once the character of the eruption, and M. Depaul, the director of the government vaccine establishment in Paris, was notified. He at once visited Beaugency, bought a fine calf which he vaccinated from the white heifer, and departed for Paris with his prize.

Depaul's calf developed twenty-seven fine vesicles, and thus

was inaugurated the true and undoubted method of animal vaccination. Heifer-to-heifer vaccination was continued by Depaul, and his virus was rapidly distributed throughout France. In June, 1870, Dr. Henry A. Martin, of Roxbury, Mass., dispatched an agent to Paris to obtain virus from this source. Depaul supplied him with matter from the 258th, 259th and 260th of his continuous series from the heifer of Beaugency.

This agent reached Boston on the 23d of September, and on the same day Martin vaccinated three heifers, on the next day two, and two each day thereafter until ten were vaccinated and the supply exhausted. For six succeeding years Martin's stock was exclusively used in this country.

Dr. Frank P. Foster, of New York, in charge of the vaccine dispensary, commenced the propagation of virus from Martin's heifers in November, 1870.

Dr. E. L. Griffin, of Fond-du-Lac, Wis., established his stables in November, 1872, using the same stock. The two or three other establishments in New England, aside from Martin's, obtained their virus from him. Within the last three years other stocks have been introduced.

Dr. Griffin, of Wisconsin, lost by accident his original stock in 1880. He at once procured a new virus from the service of the government director of vaccine at Brussels. The pedigree of this stock I cannot trace further than this, that Dr. Warlomont, the director of the Belgian establishment, introduced into his stables in 1868 the "Esneaux lymph," so called from a neighborhood in which a case of spontaneous heifer disease was found. Dr. Warlomont is the most prominent propagator of vaccine virus in Europe, and the prophylactic power of this Belgian stock is probably second to none. Dr. Pottet, of Cleveland, is propagating from Griffin's recent stock.

The Jenner vaccine farm at Chambersburg, Pa., claims to be propagating the Beaugency stock, imported from France. This claim is doubted by reliable gentlemen with whom I have corresponded in this country and Europe. The Franco-German war so interfered with all industries, that among other results the service of heifer vaccine was totally abandoned in Paris during the siege, and the Beaugency stock was absolutely lost in

France. This Pennsylvania firm being of recent date, I presume to be using the Belgian stock.

Dr. W. E. Griffiths, of Brooklyn, N. Y., commenced in 1878 the propagation of virus from a spontaneous heifer disease discovered in Central New York. I do not obtain a satisfactory pedigree of this stock, but it seems to be reliable, for it has established itself as a vigorous prophylactic.

One propagator on the Pacific Coast, one in Wisconsin, and three in the Middle States, other than those previously mentioned, are cultivating virus from Martin's or Griffin's stock. It remains only to refer to attempts to variolate the cow, and the probability of any such virus being found in this country. There is no doubt that Jenner regarded small-pox in man, and cow-pox in the cow, as identical diseases, or manifestations of a single cause. There is no evidence, however, that he ever attempted the transferal of variolous matter from a man to a cow. Jenner's hypothesis was denied by many of his contemporaries and successors, but Dr. Martin in his very able report on animal vaccination to the American Medical Association, in 1877, says: "Accumulated experience, some of which is quite recent, seems very decidedly to confirm this wonderful guess." Many experimentors have attempted this difficult feat and have generally failed.

Ceely and Badcock, of England, in 1839 and 1840, inoculated 600 cows, and claim to have succeeded in only 37 cases. In 1862, while stationed at Hilton Head, S. C., I had the opportunity of attempting this service. I covered the head of a six months old calf with a shirt saturated with variolous matter, and kept her breathing through it for 24 hours. I inoculated her in many places with matter in its most active stage, but failed to infect her. In Mr. Ceely's successful cases he continued the inoculation from heifer to heifer, and finally produced a virus with which he safely and protectively vaccinates the human animal.

Other experimentors have for the moment claimed success until painfully informed of their failure by the appearance of small-pox as the result of the use of their virus. Such an instance occurred in our own State last year.

Dr. Meyer, of Monee, a P. O. hamlet in Mattison, took matter from a heifer which he had succeeded in variolating, and introduced it into several families. The majority of his patients suffered a mild small-pox, but several developed the disease in a confluent form. The reporter adds, that the Doctor's Teutonic neighbors were looking for him, and anxious that he should decorate the bottom of a well, but he had left the bailiwick. I know of no other similar attempt in this country.

Dr. Martin says: "It is my conviction that in some mysterious manner nature may elaborate vaccinia from variola in the system of the milch cow, but that man can with no certainty repeat her process at will, nor does nature herself always accomplish it with success."

With the plentiful supply of pure vaccine matter now to be had in all civilized communities, it appears to me a criminal act to attempt this production of virus from human variola. Small-pox virus should never be touched but to destroy it. To attempt its cultivation, even though sometimes successful, resembles the proposition to cultivate tigers in a country for the purpose of destroying the wolves when these little animals become troublesome.

I conclude that we have four sources of vaccine supply now in popular use in this country:

1. The Beaugency stock introduced by Dr. Martin.
2. The Belgian stock introduced also by Dr. Martin, and by Dr. Griffin.
3. The culture of Dr. Griffiths, of Brooklyn, from a case of spontaneously appearing disease observed by him in the State of New York.
4. Humanized virus from all the above stocks.

Article III.

Lord Beaconsfield and His Physicians. By Dr. James I. Tucker, Chicago.

"Whereupon Dr. Quain wrote Dr. Kidd, asking him to state his method of treatment." (*Chicago Tribune*, April 17.)

Lord Beaconsfield, late Premier of England, at the age of seventy-seven was taken mortally ill. When such a man falls a victim to disease, his case naturally attracts the attention of the whole civilized world. Whose career was ever more eventful and extraordinary than that of Benjamin Disraeli? Scholar, author, orator, statesman, diplomat. Like his father, the author of that remarkable book, "Curiosities of Literature," his ambition was first in the direction of literature. We have all read his "Vivian Grey," and enjoyed its originality, vivacity and wit. We have perhaps read his "Young Duke," his "Contarini Fleming," interesting to us because its subject is psychological; the "Wondrous Tale of Alvoy," "The Rise of Iskandra," "Henrietta Temple," a love story; "Venetia," in which the characters of Byron and Shelly are so well portrayed; his "Sybil," "Ixion," "Tancred," and last of all, "Endymion," which, like some of the others, is extraordinarily popular because its principal characters are drawn from well-known persons now living. He was a powerful debater, a keen and polished satirist. He became Chancellor of the Exchequer, Member of the Privy Council, leader of the Ministerial party in the House of Commons. Is it strange that such a man, who, by the force of talent, industry and perseverance rose to such an eminence, should attract universal attention now that, while I write, his life is fast ebbing away?*

Therefore, when physicians are called to attend such a man in their professional capacity, their conduct is not only carefully scrutinized, but what they say and do has a deep and lasting influence upon the medical world. Lord Beaconsfield's family

* He has since died.

physician had been for years a certain Dr. Kidd. Is it probable that this physician would have obtained and retained the confidence of such a man as Disraeli unless he had possessed certain sterling qualities, both as a man and a medical adviser? But, realizing the grave responsibility of his position, Dr. Kidd sought counsellors. Sir William Jenner, physician to the Queen, refused to go. Why? Because Dr. Kidd was *reputed* to be a homœopathist. Shades of our fathers! What would old Edward Jenner, the illustrious progenitor of this hypercritical and hyperroyal aristocrat have said had he been living at that critical moment? Do we clearly recollect the trials of this great medical reformer? Pupil of John Hunter, he naturally acquired a passion for original investigation. He certainly met with very little sympathy and encouragement from his medical contemporaries, and he was even forbidden, by the medical societies to which he belonged, to indulge in his speculations, under penalty of expulsion! He was accused of "bestializing" his species, by the profession, and his method was pronounced "diabolical" from the pulpit. And yet, now, we all, including Sir William Jenner, physician to the Queen, look upon him as one of the greatest benefactors of mankind. We all vaccinate now. Next, Dr. Quain was called. For the life of him he could not see how his services would be useful, inasmuch as Dr. Kidd was a homœopathic practitioner, and his own method was diametrically opposite. But Dr. Quain sought the advice of Sir George Burrows, ex-President of the College of Physicians. How glad we ought to be that we have in the medical world something akin to a high priesthood or a supreme judiciary, to which we can appeal in time of trouble! So he went—Dr. Quain, of anatomical fame, went—but, wisely, not until he had received from Dr. Kidd an answer to a letter requesting him to state his method of treatment. Dr. Kidd's answer was satisfactory. He said he was not a homœopathist; that he treated his patients with pharmaceutical remedies in pharmacopœial doses, according to the principles of scientific medicine, though he did not feel precluded from using in his practice the *so-called** homœopathic remedies. "Although,"

* The italics are my own.

he writes, "I am a reported homœopath, I desire once for all to disclaim any such party designation. * * * In a very extensive practice, extending over thirty-four years, I have always adopted that course of treatment which my own study and experience have taught me to be most effectual to my patients. Herein I lay claim to having acted as any man does who is not bound by the *trammels of merely mechanical routine.** Like other practitioners, I use the drugs of the British pharmacopœia, but in many cases I have learned from experience that what are called homœopathic remedies may be usefully prescribed. Such remedies I freely use in suitable cases, and according to my own judgment. I do not prescribe infinitesimal doses, nor do I prescribe according to the caprice of my patient."

Is it surprising that Dr. Quain, in view of this explanation—an explanation which Sir William Jenner, descendant of the immortal and persecuted Edward, did not deign to try to obtain—is it surprising, I say, that he was "loud in his praise of Dr. Kidd?" "Moreover, Dr. Quain wrote to Dr. Kidd, asking him to state his method of treatment." The answer was prompt, explicit and manly, and yet Dr. Kidd is still under the ban of professional ostracism, and Dr. Quain has been censured for consulting with him! Is it not time that this narrow antagonism toward those who differ from us in slight degree should be eliminated from the conduct of men who claim to represent a liberal profession and to be actuated by motives of the broadest humanity?

I am glad to learn that one of our brethren, Dr. Fordyce Barker, publicly condemns this antagonism and unreasonable exclusiveness. Let it be understood, once for all, that I have no sympathy whatever with pure homœopathy, or any system which is not based upon the *tolle causam* of Hippocrates, and in its therapeutics is not broad enough (to use the words of Dr. Oliver Wendell Holmes), "to appropriate everything from every source that can be of the slightest use to anybody who is ailing in any way or is like to be ailing from any cause."

It follows, therefore, that any party designation, like allopath,

* The italics are my own.

homœopath, isopath, eclectic, hydropath, electric, Thompsonian, medico-physiological, or any other whatsoever, must, in the nature of things, come in violent collision with any enlightened code of ethics, expressed or unexpressed, which is founded upon the Common Sense of the liberal profession of Medicine. A member of this profession can be absolutely *nothing* more or less than PHYSICIAN.

MORTALITY IN CHICAGO.—Pop. 503,298. February, 1881, 836; Feb., 1879, 533; Feb., 1880, 738. Greatest mortality, Feb., 1881, was under 10 years of age and between 20 and 30. Tubercular diseases, 97; meningitis, and cerebro-spinal fever, 39; pneumonia, 56; croup and diphtheria, 85; small pox, 33; scarlet fever, 22; infantile convulsions, 63; heart disease, 22; bronchitis, 47; puerperal peritonitis, 22; old age, 26; by violence, 36. These were the most prominent causes; 250 is the total number of deaths referred to zymotic diseases.

SMALL POX continues to prevail throughout the country. Its chief centers are at Philadelphia, which reports between forty and fifty deaths per week; Chicago, where it is next in frequency, eight or nine deaths a week being reported; New York Brooklyn, Pittsburgh, Pennsylvania, and Brownsville, Texas.—*Medical Record.*

ANOTHER CASE OF NEPHRECTOMY in a child, with suppurating and cystic kidney, was performed recently at the Evelina Hospital, by Mr. Morrant Baker. The child was, at last accounts, doing well.—*Ibid.*

BILLROTH'S OPERATION FOR CANCER OF THE STOMACH.—The patient from whom Billroth removed a cancer of the pylorus, by excising part of the stomach, is reported to be nearly well. She takes food by the mouth without trouble.—*Ibid.*

Clinical Reports.

NOTES FROM HOSPITAL PRACTICE.

ARTICLE IV.

A CASE OF AORTIC ANEURISM, AND ONE OF AORTIC ENDARTERITIS, WITH AUTOPSIES.

By B. C. GUDDEN, M.D., House Physician, Cook County Hospital.

I. *Aortic Aneurism.* C. S., æt. thirty-eight, German; admitted to hospital December 25, 1880. Had acute rheumatism in 1875. Six weeks previous to admission he was taken with a sudden, sharp, lancinating pain in left axillary space, with slight cough. Pain increased in deep inspiration. From that time his appetite was poor, tongue furred, bowels constipated. Pain constant in the left side. Physical examination showed a loss of expansion and of respiratory movement with absence of vocal fremitus over the left lung, except in the infra-clavicular region. Flat percussion note. The right side of the thorax afforded low-pitched sounds with increased respiratory movements. Area of cardiac dullness increased, apex beat slightly moved to the right. Systolic murmur at the base, with a considerable bruit transmitted to the aorta. Liver displaced downward. Feet slightly œdematous. Treatment with ergot, iodide of potassium, counter-irritation, and anodynes.

January 7, 1881, one ounce of clear serous fluid was aspired from the left pleural cavity in the seventh intercostal space. January 14 no pulsation was felt in left radial, nor in left carotid artery. Patient was failing fast, had orthopnœa, annoying cough, and expectorated muco-purulent matter streaked with blood. Pain increased. January 21, patient had a slight chill.

Pulse 114, temperature 102.5. Quinine was administered. January 24, more bloody serum was aspired. Temperature subsided but raised to 103 January 30, when patient expectorated from four to six ounces of bright blood. Had another profuse hæmoptysis February 1, 4 a. m. Treatment, ergot and whisky, and inhalation of ammonia. February 2, pulsation ceased in the right radial artery. Patient died in the night.

Post-mortem forty-eight hours after death. Intercostal spaces of the left side bulging. A puncture gave a free exit to a large quantity of sero-sanguineous fluid. On removing the sternum, the left pleural cavity is found distended with sanious fluid. Left lung pressed upward. Right lung normal or slightly emphysematous. Pericardial fluid contained some fresh lymph and was slightly increased. Heart normal. There was about a gallon of fluid in left pleura. Large clots of blood and shreds of lymph settled at the bottom of the fluid. The pleura was ruptured near the third dorsal vertebra, near its reflection over the left lung. Removing the left lung, trachea, heart and aorta *en masse*, we found that the bodies of the second, third and fourth dorsal vertebræ had been absorbed. Mucous membrane of trachea ulcerated, and the cartilaginous rings absorbed. There was a communication between the left bronchi and the pleural cavity through the rupture above mentioned. Then the aorta was laid open from behind into what proved to be a large *aneurismal dilatation*, which had opened into the pleural cavity. It was partly filled with fibrinous laminæ at its periphery, and these occluded the mouths of the left carotid and subclavian artery. The left lung was completely consolidated. The pressure of the aneurism had caused the absorption of the bronchial walls, as well as that of the bodies of the vertebræ.

II. *Valvular Heart Disease and Aortic Endarteritis.* O. D., æt. forty-two, American, painter, admitted to the hospital February 15, 1881. Patient had typhoid fever ten years ago, and has had several attacks of rheumatism. Had angina pectoris four years ago. January last he had for the first time a dry and hacking cough, with expectoration of a whitish, frothy mucus, which soon became purulent. It has been occasionally streaked with blood lately. On admission he had anorexia, constipation,

a frequent hammering pulse, and complained of some lumbar pain. Tongue furred; cardiac area increased; apex beat in the mammary line. A blowing sound is heard at the base of the heart with both the systole and the diastole, and the systolic murmur is heard at the apex. In the right infra-scapular and infra-axillary regions, the vocal fremitus is diminished, and friction sounds are heard. Percussion note is flat. There was some œdema of feet, and the urine contained seven per cent. of albumen. Has hæmorrhoids. Treatment consisted in a nutritious diet, morphine and chloride of ammonium; to allay the cough, small doses of iodide of potassium. February 18, 1881, patient had dizziness and headache. The veins of the neck were engorged, and scarcely any pulsation could be detected in the left carotid and the left radial artery; dyspnœa and difficulty in swallowing; sharp and lancinating pain in the chest, extending to the left shoulder; slight friction sounds at top of left lung. March 3, free expectoration of blood; œdema of feet increases; patient is failing. He expectorated more blood the 15th, and died the 18th, apparently from exhaustion and anæmia. Morphine was given to relieve the pain, as often as necessary; temperature had been normal; auscultation over the base of the heart had detected no decided aneurismal bruit.

Necropsy forty-eight hours after death. On opening the thoracic cavity, both pleuræ contained one and a half pints of clear fluid. There were two ounces of clear serum in the pericardium. Heart increased in size; aortic valves thickened and shortened, the left being also perforated by an ulcerative endocarditis; fatty degeneration of the muscular substance of the heart; both lungs are œdematous; the bronchi contain some mucous matter, and their mucous membrane is injected and ecchymotic; endarteritis deformans in the arch of the aorta without dilatation; considerable narrowing of the mouths of left carotid and subclavian arteries, which are obstructed by calcareous deposits; spleen enlarged and sclerotic; liver is normal in size, but has a nutmeg appearance; sclerosis of the kidneys is well marked.

ARTICLE V.

COOK COUNTY HOSPITAL.

REMOVAL OF A LOOSE CARTILAGE FROM THE KNEE-JOINT, AND USE OF ABSORBABLE DRAINAGE TUBES. Service of PROF. CHRISTIAN FENGER.

These tubes had been prepared by shaping pieces of bone into cylinders, two or three inches long, and about one-fifth inch in diameter, boring them into tubes, and destroying the mineral constituent by soaking in hydrochloric acid. After immersion in a solution of carbolic acid for a few days, they were kept in a fifteen per cent. solution of carbolic acid in oil. They are flexible, resemble brown rubber tubes, and have the property of being absorbed, as catgut ligatures, so that they may be used with permanent dressings, as this case showed.

Patient, Thos. K., æt. twenty-six, born in this country, had a sore knee for a number of years. Four months ago he was confined to his bed four days on account of that joint. He has been able to work since, but he could not stand on his feet longer than a couple of hours at a time, and he had much difficulty in walking. He was admitted to the hospital February 4. Esmarch's bandage was rolled around the leg and tied above the knee with rubber tubing. Two sprays were used, being held by assistants, but this has no special advantage over the stationary atomizers. An incision one and a half inches long was made on a line with the external border of the patella, and the hypo-external articular artery was tied. After all hæmorrhage had stopped, the synovial cavity was opened into, and the loose cartilage taken out. The synovial sac was closed with catgut sutures, and an absorbable drainage tube, described above, was left in the external wound to allow a free discharge till union had taken place, and then be absorbed, thus doing away with further dressings. The wound was now packed with ruffled pieces of gauze wrung out of a solution of carbolic acid, which were four or five inches square, and formed a layer more than two inches thick to

absorb the discharges. A layer of salicylated cotton was placed over this, and bandages rolled over the whole. The limb was now placed in a well-padded splint, and was not disturbed for two weeks. There was no rise in the temperature, and there was no complication.

The loose cartilage is three-quarters inch long, two-thirds inch wide, and half inch thick, with round edges. It is half bony, or, as Prof. Fenger describes it, is "composed of a fibro-cartilaginous substance with calcareous matter in it resembling bone."

On removing the dressings, it was found that a part of the drainage tube had been absorbed, while its free extremity adhered to the gauze. The wound was healed. The patient is well, and has been discharged.

PERFORATION, WITHOUT FRACTURE, OF THE FEMUR, BY A THIRTY-TWO-CALIBER BALL.—OPERATION BY PROF. C. FENGER.—THE FEMORAL VEIN LIGATURED.

M. F., male, æt. twenty-two, born in this country, was shot in the left thigh, five inches above the knee, December 16, 1880. He was removed to the hospital December 25, but the bullet could not be found, even after the wound had been enlarged and a purulent discharge had set in. After a careful examination by Dr. W. P. Verity, House Surgeon, it was found that the shaft of the femur had been perforated without fracture, an exceptional case.

February 4, 1881, Dr. C. Fenger operated. After using Esmarch's bandage an incision two inches long was made at the seat of entrance, and a sound passed through the femur, without encountering the ball. Another incision, two and a half inches long was made on the inside of the thigh, beside the femoral artery, and the ball was found imbedded in a muscle. The femoral vein had been cut during the operation and was carefully tied at both ends with catgut ligatures. A rubber drainage tube was passed through the femur, with both extremities free, and Lister's dressings were applied. The pulse beat 160 times in a minute, immediately after tying the vein, but soon returned to 100. The treatment consisted of quinine and whisky in tonic

doses. The wound was dressed every third day, and the highest temperature, February 11, was 104; pulse 120. February 15, the drainage tube was removed; it was nearly fastened to the bone. Patient made a complete recovery in a few weeks.

ANOTHER CASE OF SHOT-WOUND.

J. D., æt. twenty-four, male, American, accidently shot himself through the left hand and thigh. Patient was anæsthetized, and the ball was probed for but could not be felt. He was admitted to the hospital March 16, the day following the accident, and on the next day his temperature was 103. The hand was dressed antiseptically and healed in the course of two weeks without any inflammation setting in. The wound in the thigh suppurated and an abscess formed in the thigh. March 23, the bullet was felt by the probe and extracted through a counter opening six inches below the point of entrance. A drainage tube was introduced, and patient is nearly well. Treatment consisted of quinine and whisky.

As these two cases show, although the bullet cannot always be felt in gunshot wounds, at first, it can be discovered after suppuration has taken place, but the antiseptic treatment is useful in moderating the latter, and insures a prompt recovery.

INCISED WOUND OF ABDOMEN.

J. L., æt. thirteen, Pole, had a shoemaker's knife in his pocket, and slipped, falling on his side, the blade of the knife entering his abdomen two inches above and one and a half inches to the right of the umbilicus. The omentum protruded. This was on March 16, and he was admitted to the hospital the next day. The wound was one inch long. The omentum being replaced, the wound was closed with a figure of 8 ligature, under the spray. March 20, the ligature was removed, the wound had healed without any constitutional or local disturbance.

A Bold and Successful Operation.

T. D., æt. twenty-three, American, was struck on the head by a piece of timber falling in an elevator-way, March 15. Admitted to the hospital the same day. Temperature 102.5, pulse 150. Patient was unconscious for a few hours, unable to speak for two days, the timber had struck him on the left parietal bone, near the longitudinal sinus, producing a large scalp wound. At first there was anæsthesia of the lower extremities, and pins were thrust into the soles of the feet without producing any sensation. Patient was also paralyzed, on the right side most, and had an ugly ecchymosis of left eye. There was no facial paralysis. Patient was delirious the first few nights. Although the external table of the skull was not fractured, the house surgeon, W. P. Verity, became convinced that the inner table must be broken, and he trephined, March 18. He removed two fragments of bone which compressed the dura-mater, and dressed the wound antiseptically. From that time the temperature and pulse became normal, and the patient is now well. There is always a greater tendency for the inner table of the skull to break, often extensively, after injuries by blows, but if the external plate is intact, the diagnosis is difficult; so much so, that surgeons, a few decades ago, did not think trephining justifiable in such cases.

We have finally made arrangements, at considerable expense, which will enable us to lay before the readers of The Chicago Medical Journal and Examiner, and in due season, a report of the transactions of the forthcoming International Medical Congress. We have no question but that this course will meet with the approval of the subscribers to this journal.

Annual Mortality in Chicago for the Past Year.—Ten thousand four hundred and fifty-two deaths within the city limits; 3,903 are referred to zymotic diseases; 53.5 per cent. were under 5 years of age.

Society Reports.

ARTICLE VI.

THE CHICAGO BIOLOGICAL SOCIETY.

Stated meeting April 6, 1881. Dr. W. S. HAINES, President, in the chair.

After the minutes of the last meeting had been read by the Secretary, Dr. Roswell Park, Dr. R. Tilley brought two peculiar cases before the members. The first was a young man who had cut off the ends of first and second phalanges of his left little finger, and amputating the joint, but a large part of the muscular tissues and skin had remained intact. Dr. Tilley removed a sufficient part of the bones injured, but did not amputate the finger. The result was very satisfactory. The finger is shortened one-half inch, and a false joint formed at the point of union, but so near the natural joint as to escape observation; all the motions are preserved, and the usefulness of that finger does not seem to have been in the least diminished. The other case was a man over fifty years old, who has a perforation of the septum nasi three-eighths of an inch in diameter; supposed to be congenital. The same person has a detachment of the retina, for which there was found no cure, but Dr. Tilley having read of some cures lately accomplished by hypodermic injections of pilocarpine, has resolved to give that remedy a trial. The present difficulty has existed for a year, and the sight of the patient is very much impaired as to the left eye, which is the one affected.

MASKED MEASLES (?) AND GERMAN MEASLES.

Dr. H. M. Starkey reported the case of a child who, some time previous, had had an attack of false croup, from which he

had entirely recovered. The child now became feverish and had a coryza, and the Doctor was called. He made a diagnosis of measles, and the case seemed a well-marked one, but no eruption was present at any time during the disease. Eight days later another physician was called to treat another child of the same family who had just been taken sick with the same symptoms as the first. This physician also diagnosed masked measles. A third child came down with the disease, and Dr. Starkey attended it. It was precisely similar to the others, bronchitis and coryza were present, the temperature increased during the first four days reaching 103° and 104°, and disappeared in a couple of days. The children had been exposed to measles a few days before, and there were also cases of diphtheria across the street.

Dr. R. Park related his experience with 100 cases of measles which came under his observation during an epidemic several years ago. The incubation had generally been of four or five days. Seven cases which proved fatal succumbed to pneumonia or other lung complications. Some cases had exhibited but a slight eruption, but this could always be observed with a little care on the part of the physician or the nurse, and the fever had always lasted longer than in the cases reported by Dr. Starkey.

Dr. D. R. Brower had never seen masked measles, but he had observed cases of masked scarlatina, and thought that masked measles was very possible. He related his experience with an epidemic present on the West Side. It is an eruptive disease resembling scarlet fever and measles as to the rash, while it is very mild. His little girl, who has had the measles and scarlatina, had this peculiar disease, but another child of his escaped. He also had other cases in persons who had had scarlatina and the measles previously. It corresponds in every particular with German measles. The eruption develops all over the body at the same time. There is no trouble with the throat, and very little sickness. Drs. Jones and E. Ingals, whom he interviewed on the subject, had also met with cases of German measles. This is a contagious disease and should not be confounded with roseola, which is a non-contagious affection of the skin.

Dr. Starkey had a case of German measles among students in the college. The eruption resembled at first that of scarlatina.

There was a rise of a few degrees in the temperature, redness of the throat and fauces, and after a couple of days the rash resembled more that of measles. Patient had had this disease and also scarlatina a few years ago. No desquamation took place.

Some beautiful slides for the microscope, prepared by Dr. H. D. Schmidt, of New Orleans, were exhibited before the Society by Dr. S. V. Clevenger. There were 23 of them—some physiological, but most of them pathological representations of some of the cephalic and sympathetic ganglia; sections of the spinal cord, of the liver, the spleen, the kidney, the supra-renal capsule, and the mucous membrane of the stomach. Also lithographic illustrations of the pathological changes observed in yellow fever in the various organs. Dr. Clevenger then read the paper of the evening, which was a biographical sketch of Dr. Schmidt, and will be found in this number of the JOURNAL; after which he read various extracts from a treatise on Yellow Fever, by the same writer, and this will also appear in the JOURNAL. Before adjourning, the following motion was made and carried:

"Moved and seconded, that the Chicago Biological Society cordially indorse the work of Dr. Schmidt, and recommend its publication by subscription under its auspices; and that for all subscriptions handed to him, the treasurer be held responsible to Dr. Schmidt."

All the members present subscribed for the book.

ARTICLE VII.

CHICAGO MEDICAL SOCIETY—THIRTY-FIRST ANNUAL MEETING, HELD APRIL 4, 1881. Dr. R. G. Bogue, President, in the chair.

This was one of the largest meetings of the society since its foundation. There were about forty members present, and twenty-five visitors by invitation. The names of Drs. Chas. C. Sparey, graduate of Chicago Medical College, and W. W. Allport, graduate of Rush, and that of Dr. H. D. Valin, graduate of the University of Vermont Medical College, were

presented for membership and referred to the censors. The President welcomed the numerous visitors in a few words, and the Secretary, Dr. L. H. Montgomery, read the annual report of the society.

There were seventeen meetings held in the course of the year. None had taken place during the months of July, August or September, except one held on the occasion of the death of the late Treasurer, Dr. F. H. Davis. Number of members attending during the year, two hundred and seventy-eight; of visitors, seventy-four. The members of the society numbered one hundred and eighty-one at the beginning of the year. There were ten new members elected, and the society lost five members, leaving a total of one hundred and eighty-six. Of the five members lost, one had died, one left the city, another had never claimed membership, one retired of his own accord, and another refused to pay the annual fee. The Secretary had received $8.00 and expended $7.00 for postage and for a convenient record book for the society. The following papers had been read at the various meetings by the following members: Mastoid or Post Aural Abscess opening into the External Auditory Canal; Dr. F. C. Hotz. Causes of Epilepsy, with Photographs of Atrophy of one-half the Brain; Dr. S. R. Millard. Some Peculiarities of the Cerebral Circulation; Dr. J. S. Jewell. Lost Balance and Surface Treatment; Dr. G. Sprague. Diphtheria, with a History of Fifty Inoculated Cases; Dr. J. T. Everett. Atresia of the Genital Passages of Women; Dr. E. W. Jenks. Recent Progress in Brain Studies (illustrated with models); S. V. Clevenger. Woorara (Curare), its Analysis and Employment in Fifty-four Cases of Epilepsy; Dr. F. E. Waxham. Report of a Case of Meningo-Encephalitis; Dr. H. M. Bannister. A Review of the Progress of Medical Education in Chicago, with some Suggestions for its Advancement; Dr. E. Ingals. Genital Irritation and Hygiene of the Genital Organs of Young Children; Dr. R. Park. Expert Testimony, and the Microscopical Examination of Blood; Dr. R. H. Piper. Abscess in the Lower Part of the Tibia; Fibroid Tumor in Rectus Abdominis; Radical Cure of Varicocele; Dr. R. G. Bogue. Local Treatment of Chronic Gonorrhœa, by means of the Endoscope; Drs. C.

Fenger and A. Hinde. Some Sources of Error in Measuring with the Microscope; Dr. Lester Curtis. Report of a Gynæcological Case and Prolonged Gestation; Drs. Mary H. Thompson and John Bartlett. Mechanism of the Great Abscesses; Dr. E. Andrews. Health Aspect of Water Supplies; R. S. G. Paton, PH. D. The Gynæcological Chairs; W. W. Copp. Remarks on the Norton Attachment for Waste Pipes and Obstruction of Sewer Gas; Dr. R. Tilley.

None but original articles which had not been read in any other society before, were accepted. The following pamphlets were received: The Chicago Medical Review for 1880–1881; the Annual Transactions of the State Medical Society of Arkansas; the Annual Transactions of the State Medical Society of Tennessee; the Official Register of Physicians and Midwives of the State of Illinois; the Annual Report of the Illinois State Board of Health. The foundation of other scientific societies seemed to have diminished the interest placed in the society by its members; however, this last year had been more prosperous than any previous one.

Before retiring, the Secretary advocated a more thorough organization, a larger attendance of the members; that each member should be appointed to read an essay in his turn after a convenient time for preparation; that a more convenient place of meeting be secured, such as the Academy of Sciences, where there is an easy access to pathological specimens in the Museum; and an annual banquet be held in the manner of the alumni of colleges. He proposed that the initiation fee be increased to $2.00, and the annual fee to $3.00, to provide for the publication of the year's proceedings. He also believed that the usual announcement of meetings on postal cards might be discontinued, and notices sent to the daily papers.

The Treasurer next made his report. On his being elected to this office last summer, Dr. E. Fletcher Ingals found $17.00 in the treasury. He collected $211.00 in January alone. He paid out $54.93, and there is $173.67 left in the treasury. Both reports were unanimously accepted, $25.00 were presented to the Secretary, and $50.00 to the Grand Pacific Hotel, where the meetings take place.

The society proceeded to elect its officers for the coming year. Dr. E. Ingals was elected President; Dr. Mary H. Thompson, Vice President; Dr. L. H. Montgomery was re-elected Secretary; and Dr. E. Fletcher Ingals was re-elected Treasurer. The choice of a Committee of Censors was entrusted to the new President, who will name them at the next meeting.

A motion was also passed that the Secretary issue credentials to any member applying for them, to attend the annual meeting of the American Medical Association, at Richmond, Virginia, May, 3, 1881, as delegates.

The paper of the evening was read by Dr. Oscar C. DeWolf, Health Officer. It is a very valuable paper on the History and Nature of Vaccine Virus, and is published in this number of the JOURNAL. Dr. DeWolf also furnished the following interesting notes: The Health Department vaccinated 21,325 people last year. Of this number 8325 were primary; and among these ninety-three per cent. took, while in those who had been previously vaccinated, eighty-one per cent. was efficient. The daily attendance of school children in Chicago is 57,000. In 560 cases of vaccination among these, twenty of them exhibited some unusual symptoms. There were fifteen cases of dermatitis, so-called erysipelas; two or three cases of axillary abscesses (adenitis); three cases had suppurative inflammation and sloughing. He saw twenty-five cases of this kind in four years, and believes that the patient enjoys the same immunity from variola as in common cases of vaccination. One such case, a nursling, was taken to the small-pox hospital with its mother, for some peculiar reasons, and was there a week without becoming infected. Dr. DeWolf has also observed three cases of diphtheritic membranes forming over the point of inoculation. Re-vaccination is not appreciated by the people, and he calls on every physician in the city to bring his influence to bear on that point, for he is well aware that the few centers where small pox is now discovered, are precisely those where vaccination has received most opposition from an ignorant class, mostly composed of foreigners, who perpetuate the disease in their midst.

ARTICLE VIII.

MICHIGAN STATE BOARD OF HEALTH. Reported for THE CHICAGO MEDICAL JOURNAL AND EXAMINER.

The regular quarterly meeting of this board was held at Lansing, Tuesday, April 12, the following members being present: Rev. D. C. Jacoke, of Pontiac; Henry F. Lyster, M.D., of Detroit; Arthur Hazlewood, M.D., of Grand Rapids; and Henry B. Baker, M.D., Secretary. Dr. Lyster was elected President *pro tem.*

A letter from Prof. Kedzie, President of the board, announced his decision to decline the reappointment as member of the board, for the reason that his duties as professor at the Agricultural college were such as, in the opinion of members of the board of agriculture, would prevent his giving that attention to the work of the board of health which he had heretofore done. His communication outlined the great progress in public health measures in this State since the organization of the State Board of Health eight years ago. He saw with pride that nearly every city, village, and township in the State now has its board of health and health officer. Kerosene explosions, so common eight years ago, have forever been banished. Everywhere in the State there is evidence of an advance in the stamping out of infectious diseases. The ventilation of churches, school houses, and dwellings now receive an attention never known before. The water in our wells, the drainage of farms, and the sewerage of houses have all been brought into prominence by the labors of the board. In this work the board had been greatly assisted by the public press, but the press itself has been stimulated by the work of the board. In short there has been a general advance along the whole line, but we have kept such even step in this advance that we only become aware of our changed position by comparison with the landmarks of eight years ago. Last, but not least, among the agencies set in motion for the public health, he noticed the sanitary conventions for discussion with the people of all matters relating to their physical well-being. He believed they were

fraught with inestimable good to the people of our State. The forces which are thus set in motion are not temporary in their influence, but will flow on in a stream of blessings to the end of time. The information gathered by the board needs to be scattered broadcast among the people. New and original investigations into the nature of contagious diseases, and the means for arresting them, need to be undertaken and pushed forward by the board. The information gathered will be of small benefit if imparted to only a few. The State cannot afford to hide this light under a bushel.

In bidding farewell to the State board of health Dr. Kedzie gave the assurance that he did so with the kindliest feelings towards all its members, and with an earnest wish for its highest prosperity and usefulness.

Resolutions were passed expressing extreme regret at the necessity which compelled Dr. Kedzie to decline to serve longer with the board; also, expressing the high appreciation of the board for the eminent labors of Prof. Kedzie in the interests of the public health of the State. The election of his successor as President was postponed until the next meeting of the board.

THE FILTH OF OUR CITIES.

The Secretary presented a communication from C. H. Voute, giving statistics of the filth removed from privies and cesspools in various places in the State, by means of the odorless excavating apparatus. During the time—about a year—the number of tons removed, is, approximately, as follows: East Saginaw, 850; Bay City, 580; Lansing, 93; Charlotte, 61; Jackson, 151; Ionia, 78; Flint, 118; Battle Creek, 60; Kalamazoo, 258; in the State about 2,300 tons, or 15,000 barrels, and of that amount but 2,000 barrels could be pumped out, the remainder being removed by the "pitting" process, showing the liquid portion had mostly drained off into the soil, which must be much saturated with filth, and as a consequence many wells must be contaminated.

OIL INSPECTION.

Communications had been received from different parts of the State, stating that it was customary for deputy oil-inspectors to

inspect a few barrels of oil from a carload and brand as "approved," and collect pay for inspecting the whole carload. One of the statements was, that the inspector did not test every barrel even when his test showed at least three different grades of oil in the carload. The questions were, whether this was an honest fulfillment of the law, and whether the public safety is thus conserved. The Secretary was directed to take action for ascertaining.

SICKNESS CAUSED BY PUTRID MEAT.

A letter was presented from John Mulvany, M.D., Surgeon in the British Navy, detailing the effects of food rendered unwholesome through putrefactive taint. All of the crew of a large merchant vessel that put into the Falkland Islands, who ate of pork, opened on a certain day, became ill, and the illness continued until the ship was disabled and medical assistance was sought for in the Falkland Islands. There it was found that not only the pork but the beef was bad, and the meat was condemned by a board of surveying officers. Seven of the affected died, and *post mortem* examination revealed immense effusion into the pericardium, a stench from the brain and congestion at the point of the calamus scriptorious in the fourth ventricle, with congestion of the jejunum and ilium. During life the chief symptoms were paralysis of the hands and feet, and agonizing pain in the toes; uncontrollable sleeplessness, loose bowels, stench from the skin, etc. Symptoms entirely *sui generis*.

The board requested Dr. Mulvany to present a complete account of the sickness.

DISEASES OF ANIMALS.

A letter was presented from A. J. Murray, U. S. Secretary of the State Cattle Commission, relative to the desirability of collecting statistics of deaths from contagious diseases of animals in all parts of the State. This work might properly have been done by the State Cattle Commission, if it had any funds, but a bill granting them an appropriation of $500, which was passed by the senate was defeated in the house of the present legislature.

Letters were also presented relative to glanders in Clinton and Shiawassee counties.

SANITARY CONVENTIONS.

Invitations to hold sanitary conventions during the coming winter were accepted from Coldwater and Ann Arbor.

DETROIT BOARD OF HEALTH.

Dr. Lyster, chairman of the special committee of the board, to devise a plan for a board of health for the city of Detroit, reported that he had in consultation with the city attorney and other citizens drawn up a bill providing a practical and scientific board of health for that city, and the bill was now before the legislature.

SANITARY SCIENCE EXAMINATIONS.

The annual examination of applicants in sanitary science will be held Tuesday, July 12, 1881; it was voted that the examination should be written, and that each member should submit ten questions not heretofore asked, and on subjects connected with their work as regular committees. Candidates successfully passing the examination will receive certificates that they are qualified to act as health officers in any city, village, or township in the State.

CONTAGIOUS DISEASES.

It was decided to print revised editions of the documents on the restriction and prevention of each of the three diseases, diphtheria, scarlet fever, and small-pox. Arrangements were also made for the translation of these documents into the Holland and German languages.

"WINTER CHOLERA."

The Secretary reported the prevalence of a peculiar type of diarrhœa in some portions of the State during the past winter. The fact of its greater prevalence in the southern portions of the State, and that cases have been reported from two State institutions and from towns in the northern part of the State, dependent upon Chicago and Southern Michigan for their food supplies, might indicate a connection between the sickness and the use of oleomargerine, butterine, products of diseased pork, or meat, or other food.

The next regular meeting of the board will be Tuesday, July 13, 1881.

ARTICLE IX.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, April 18, 1881. Dr. E. Ingals, President, in the chair.

The three new members proposed at the last meeting were elected.

VACCINATION AND VACCINE VIRUS.

Dr. N. S. Davis related three cases in nursing children, who, not being susceptible of vaccination, had been exposed to small-pox without taking the disease; and made the inquiry: "Should nursing infants under two or three months of age be vaccinated?" He also inquired whether bovine virus was a better protective than humanized virus?

Dr. W. E. Clark said he generally declined to vaccinate infants because he had once had a case of adenitis, and had seen other bad results.

Dr. O. C. DeWolf, Health Officer, said he had young children vaccinated with a good result. Of several cases which had been afterward taken to the Small-Pox Hospital with their mothers, not one had contracted the disease. As to the greater immunity conferred by bovine virus, it was doubtful. Dr. Jones did not use bovine virus because very young children were less susceptible to it, and because the arm was made more sore by it. Dr. DeWolf related that a mother had been taken with variola a few days ago who nursed a baby two days old. It was not vaccinated, and was fourteen days old to-day, the time when the eruption should have appeared; but the infant has just died in convulsions, probably being overwhelmed with small-pox, although no symptom manifested itself before this. Had the child been vaccinated, it would have lived. He had never seen a fatal case in one who had been vaccinated. The Health Department employed bovine virus exclusively, because more readily obtained. The disease was not at all modified by old vaccinations, some had confluent small-pox who had many cicatrices on their arms. Eighty-nine per cent. of the cases of secondary vaccination were successful,

and he never saw a case of small-pox among them in four years.

Dr. John Bartlett said that children who were not susceptible of vaccination might take small-pox, he had observed six different cases of that kind, two of them in the practice of Dr. Byford.

Dr. E. Ingals believed the rule to be that a case which resisted vaccination, did not easily take small-pox. He had been vaccinated many times, only the first successfully, and he was subsequently exposed to small-pox a great deal, but finally took varioloid from a case of confluent small-pox. He inquired whether a repetition of vaccination within a few months would take?

Dr. R. S. Hall had seen a successful case of that kind, and had no doubt that if we should re-vaccinate some weeks after the first vaccination had taken, many cases would prove successful.

Dr. Jane E. Walton re-vaccinated a child after six days, and both vaccinations were successful.

Dr. N. S. Davis said that immediate re-vaccination was the only test of a good vaccination and should be tried; the great majority of cases were not susceptible to it. He thought the time for compulsory re-vaccination might be fixed between the age of sixteen and twenty-one, and he thought the majority would be safe for a life-time. But he mentioned that some diseases like typhoid, or some change of climate, might interfere with the immunity conferred by vaccination. He had always used humanized virus until a year ago. He had never seen any bad results follow.

The Society now drew up resolutions on the occasion of the death of Dr. Mills Olcott Heydock, M.D., which happened on April 17. Dr. Heydock had at one time occupied the Chair of Materia Medica in the Chicago Medical College.

Dr. DeLaskie Miller was elected a delegate to the International Medical Congress, and the Society adjourned.

The West Chicago Medical Society has not held a meeting for two months. The immediate cause of it is a want of attendance on the part of members.

Original Translations.

ARTICLE X.

ON GOUTY DYSPEPSIA, OR GOUT OF THE STOMACH. By Prof. Germain Sée.

Gouty dyspepsia, or gastric gout, is surely a rarer affection than is generally asserted; its existence is altogether denied by Watson, who refers it to common violent irritations following excesses in eating. Brinton asks, what is understood by gout of the stomach, and comes to the conclusion: There may be hepatic colics, or uræmic manifestations, which in gouty subjects are said to be a metastasis of gout to the stomach, but, besides these errors, there is nothing left constituting a special disease, nothing worthy the denomination of gastric gout, a term which patients, imbued with medical principles, abuse in so strange a manner; but this negation, this willful disregard of facts, adds more evidence to the truth that this is an obscure subject, and these symptoms which cannot be denied, are not easily accounted for.

My experience with these various forms of gout has demonstrated to me the following:

(*a.*) There exists an *ante-gouty, pseudo-dyspepsia;* it is a forerunner of gout, a first premonitory symptom, coming on very early so that Ford said it was the cause of that disease. Patients complain of digestive disturbances, with feelings of compression, squeezing, or more generally of fullness in the epigastrium, of distension of the abdomen, eructation, pyrosis, tympanitis, constipation, and hæmorrhoids; this affection has been described of old, and is yet known in Germany under the name of *abdominal venous plethora.* Is that a true

dyspepsia? Not at all. It is one of those atonic states of the intestine, with or without constipation, with or without hæmorrhoids, which are often observed to follow excesses in eating, in atonic, weak or obese individuals; it is a false dyspepsia, deserving the title *ante-gouty* in the sense that it is the *habitual temperament* of gouty subjects.

(*b.*) *Acute paroxysmal catarrhal dyspepsia.* Before the crises of gout, and while they last, we often observe signs of the condition commonly known as gastric troubles, or acute mucous catarrh. The patient loses appetite, his tongue becomes coated, his digestion slow, difficult, with metorism and eructations, is always accompanied by much uneasiness, by a sensation of lassitude and despondency, as if a serious disease was impending. There are patients who never suffer crises of gout, but these are preceded by such gastric trouble, as a sort of premonitory symptom unaccompanied with fever. This gastric difficulty may last through the whole attack, especially if it is a severe one. Is that a truly gouty phenomenon, or is it not one of those perturbations of the secretions, which we might call acute mucous dyspepsia, of the common kind, as we sometimes observe in the beginning of acute diseases? If that state persists during the evolution of articular gout, it ordinarily manifests itself under the form of a persisting anorexia of which pain in the joints is a frequent concomitant. Let us call that state *acute catarrhal dyspepsia.*

(*c.*) *Acute and true uræmic dyspepsia.* Here is presently a series of phenomena which are briskly manifested during an attack of gout, or while this is on the wane; it violently appears as a *cardialgia.* The patient is taken with cramps and colics in the stomach, with constant hiccough and pyrosis, followed by repeated emeses of acrid matter; resembling cases of poisoning, with symptoms pertaining to peritonitis, which may induce lipothymia, or even syncope with cooling of the surface of the body, passive algidity of limbs and face, with a livid discoloration of the lips. Is not this uric acid poisoning? Had injections of that acid into the blood been followed by other than negative results, one would be tempted to ascribe a toxic cause to that cardialgia, referring it to the sudden introduction of an excess of uric acid in the blood; lacking such data, we confine ourselves to

its mode of elimination; for we know that the stomach is the true excretory organ by which urea is thrown out after accumulating in the blood, on account of some alteration of the kidneys; the same is true of uric acid, which is equally eliminated by the stomach; but the presence of an excretory product in the gastro-intestinal mucous membrane, could not fail chemically to alter the gastric juice and give rise to a serious dyspepsia with all the symptoms of uræmic poisoning. The main point is to find out the cause of this sudden invasion of uric acid into the blood, and thence into the stomach. Here we come to the doctrine of metastasis. If, in reality, cardialgia arises when the crisis in the joint recedes, we may believe that uric acid which had invaded the joints is entirely reabsorbed into the blood, which eliminates it through the stomach; but such is not always the case, this mutual relation is not all constant; cardialgia may take place without any improvement in the joints; retrocession could not be advocated in cases of that nature; but it remains just as evident that uric acid, circulating in moderate quantity in the blood, may be eliminated by the mucous membrane of the stomach, giving rise to a series of serious symptoms by its passage.

Why such a sudden elimination? The only solution is that in a certain number of cases of poisoning, as by anthocthonous poisons, there is always some tendency for the elimination to select an excretory organ in particular and leave the ordinary way of excretion. In a clinical point of view, it is now proven that there exist dyspepsias, accompanied with *uræmic cardialgia*, which often bring a real danger to the constitution.

These are the three types of dyspepsia which arise more or less directly from gout, other types are allied to the common affection; a gouty patient may suffer from a dyspepsia depending on an irregular diet, he may be a subject to chronic gastritis (Ebstein); but these are referred to dyspepsias in general, and are devoid of characteristics.—*Le Médecin Praticien*, March 5.

Foreign Correspondence.

ARTICLE IX.

KIU KIANG, CHINA, Feb'y 25, 1881.

MESSRS. EDITORS:—Previous to my departure for China, I gave you a promise to write to your JOURNAL in regard to the *native medical practice* of China. I have delayed so long on account of the impossibility of gaining any definite idea of the subject until I had acquired a knowledge of the language of this country, and even now I hesitate to impart the little knowledge I have gained, for fear it may not have come from the most reliable sources.

I have in my circle of native friends three literary gentlemen who practice medicine. One of them is a member of a Christian church, and seems to have great confidence in foreign practitioners, and occasionally comes to me with patients whom he is unable to cure.

From these native physicians I have learned many things in regard to their methods of treatment and knowledge of general medicine, and I will now relate a few of these facts, giving you the privilege of printing any or all of them, as you see fit.

The native physician of China is a member of the literary class, and well versed in the philosophy of Confucius—of medicine he is not required to have any special knowledge. There is a law by which physicians and druggists are held responsible for errors in prescriptions, but the native never takes advantage of it.

The creation of a physician generally comes about in the following manner: A Chinaman is seriously ill; he sends for the literary relative (or relatives, as the case may be) of the family for advice. The literary gentleman searches all the works on

medicine at his disposal, and treats the patient according to directions. Should that literary man happen to be successful in his treatment, his fame is spread abroad, and ever after that he is consulted as a specialist in that particular disease. There is no doubt that many a man of the most unreliable character makes his way to the front of the medical ranks in this way, and doubtless many a life is sacrificed thereby.

The *last resort*, in serious cases of sickness, is that of administering fresh warm human flesh to a dying person, and it is said there are many monuments in China erected to the memory of women who have allowed themselves to be butchered for their husbands, brothers or fathers. I have yet to learn of a case where either the dying man or the person from whom the live flesh was cut recovered; unfortunately, however, the *physician* usually survives the operation. Fortunately this custom is not a common one.

Consumption, dropsy, obstinate vomiting, and insanity, are considered incurable by native physicians.

Practice is divided into (1) Outside, (2) Inside, (3) Diseases of Women, (4) Diseases of Children, and (5) Eye Diseases.

Outside diseases comprise skin diseases, abscesses, burns, fractures, and all other diseases that are apparent on the surface of the body.

Inside diseases comprise all those that are not apparent on the surface, excepting those mentioned below, and are diagnosticated by the pulse.

Diseases of Women comprehend any kinds of ill the female is afflicted with—be it uterine or otherwise—excepting *outside* diseases.

Diseases of Children and *Eye Diseases* indicate the same disorders that we comprehend under these titles.

Anatomy and physiology are comparatively unimportant studies for the native physician. Not long since I asked a physician where the liver was situated, and he was undecided as to whether it was on the right or left side.

The human body is divided into five organs and six viscera. The five organs are the heart, lungs, spleen, liver and kidneys;

the six viscera are the stomach, gall-bladder, intestines and three functional passages (rectum, vagina and urethra.)

Very little is said of muscles, tissues, bones and joints. Blood-vessels are supposed to be channels through the flesh. In reply to my question to a physician, "How do you account for motion in a part?" he said, "The blood and the breath go into the part and cause it."

Nothing is known of nerves. The brain is called "a great sea of marrow," and controls the marrow of the bones. Marrow is very essential to health. In childhood it is scant, in healthy middle-age very abundant, and in old age the bones are hollow. If a child cannot walk, it is because the bones of the legs contain no marrow.

The heart is the seat of thought and moral character. Many physicians believe the heart possesses even eyes. These eyes are very brilliant in intelligent people, and very sleepy in stupid ones. It has been gravely decided that the head must be the seat of the memory, because people have been observed to scratch the head when trying to recall events of past time. The heart rules over the blood, the brain over the marrow, the spleen over the flesh, and the kidneys over the bones. The *life* is a small *organ* situated between the kidneys. Chemistry is an unknown science. The elements of the universe are metal, wood, water, fire and earth. The heart is controlled by fire, the liver by wood, the lungs by metal, the spleen by earth and the kidneys by water. The organs of speech are situated in the lungs.

The liver hoards up the blood. The heart and the small intestine are said to be intimately associated. The lungs have a close relation to the large intestine. The kidneys control the bladder, though the natives know of no connection between the two. The spleen governs the stomach and the liver rules over the gall-bladder. The process of digestion is as follows: There are two tubes opening into the pharynx—one from the lungs and another passing to the stomach. The food passes down the latter tube into the stomach, and keeps up a constant motion, by means of which the food is digested. Thence the food passes into the small intestine, when the good food passes

into the blood-vessels. The waste matter proceeds to the large intestine, from whence the waste *solid* matter goes to the rectum, and the waste *fluid* matter to the bladder.

In materia medica the varieties of drugs are very extensive, and their application as various as would naturally result from the irregularities of the native physicians. Sulphur is used for scabies, and mercury for syphilis. Arsenic is used as a caustic, though strictly forbidden for skin diseases. Tiger's flesh and bones are used for making tonics. Not many weeks ago a huge beast of this sort was brought to me in the hope that I would purchase it for my dispensary. It had been shot in the mountains not far distant from Kiu Kiang. The fæces of various animals, as well as crystals prepared from urine, are common medicines. A vegetable oil is administered frequently in consumption. Musk is said by the natives to be stimulating, antispasmodic, expectorant and anthelmintic. Sugar-water is the domestic remedy among the natives for vomiting. Vermillion is used as an antispasmodic. I have seen two cases of paralysis this year, due, it was claimed, by the patient's too powerful medicines, administered by a native physician—one case was said to have resulted from the use of vermillion. Unfortunately circumstances did not permit me to make a very thorough examination of either case.

Undoubtedly the most interesting department of native practice is therapeutics—it is also in this line that one might learn a few things of value to the general medical profession, had one time and opportunity to search in this direction. However the value of such research is readily overestimated, unless one considers the utter lack among the natives of real knowledge of the fundamental branches of medicine, without which but little advance can ever be made. The diagnosis of internal diseases by means of the pulse, is reduced to an exact science. The principal directions for conducting examinations are as follows: If the patient be a male, feel the left (the side of honor) pulse first; if it be a female, feel the right pulse first. Supposing one is dealing with a male: place the first, second and third fingers on the radial pulse of the left side, at some distance apart if he be an adult, close together if it be a child.

The first finger distinguishes diseases of the heart and diaphragm; the middle finger diagnosticates diseases of the liver and gall; and the third finger diseases of the kidneys, small intestine and bladder. Now, placing the fingers on the right radial pulse, the first finger distinguishes diseases of the lungs and chest; the middle finger, diseases of the stomach and spleen; and the third finger, the *life*, large intestine, and general condition of the body.

There are four main divisions of the pulse—a floating, sunken, quick and slow pulse. These constitute four headings, that are subdivided into twenty-seven different varieties, such as large, small, coarse, fine, etc.

Uterine trouble is recognized, but no varieties of the disease are distinguished, so far as I am able to learn. It is treated as a symptom of a general anæmic condition, and tonics administered therefor. There is no doubt that uterine disorders of all kinds are exceedingly common in China. Native physicians say ninety per cent. of the women are troubled with leucorrhœa.

An "ague nest" of phlegm and blood is said to form in the left side of patients suffering from malarial poisoning. It is pro nounced incurable, and is in close connection with the liver.

Tumors of the abdomen are *real* or imaginary. There is a variety of tumor which forms in the abdomen of men who are given to strong drink. Sometimes it comes out of the mouth during life, and it resembles a snake, centipede or mud-turtle!

There is also a large tumor mentioned in native works, which grows on the lower part of the back (*exceedingly rare!*) and when it is cut open, live pediculi escape!

Auscultation and percussion are never practiced. Only the most skillful physician can differentiate ascites and tympanitis. A short time ago a young boy was brought to me with acute Bright's disease. As his life was endangered by an immense accumulation of fluid in the abdomen, and every other means of removing the fluid failed, I performed paracentesis—to the great astonishment of native physicians and the friends of the family. I was afterwards closely questioned in regard to how I knew it was water instead of gas in the bowels, as all the native physicians who had seen the case had been unable to decide.

The natives divide consumption into that of the lungs, heart, liver, spleen and kidneys. In all these forms it is considered incurable.

Not long since a babe, one and one-half years old, was brought to me for treatment after the native physicians had given up the case. They had pronounced it a case of consumption, and fed the babe on stewed pig's liver. I learned that the mother's milk had failed several months before, and the child was being raised (according to Chinese custom) on rice-water. The babe eagerly devoured everything in the shape of food presented to her, and on beef and chicken broth, eggs and cows' milk was restored to good health in two weeks.

Paralysis is said to be due to three causes: (1) a wind suddenly blows upon a part and dries up its juices; (2) the blood no longer flows to the part; (3) there is some obstacle to the free entrance of breath to the part.

Insanity is possession by an evil spirit, the result of mental excess, or the result of an accumulation of the juices of the body between the heart and diaphragm.

Convulsions are due to an accumulation of juices about the heart. No differentiation is made between epileptiform convulsions, apoplexy and syncope.

Generally a person is considered dead when he faints, and when he recovers, he is restored to life again.

There are two varieties of convulsions in children, *slow* and *sudden* (acute and chronic). The latter variety is easily cured; the former variety is due to an inherited dyscrasia, and cannot be cured, but slowly spreads to the spleen, and in spite of caustics, pinching, purging and tonics, the child eventually dies. The method of distinguishing the two varieties is as follows: Either take hold of the hand or foot and shove forward the integument of the palm or sole (as the case may be) with the thumb, or gouge the flesh of the knee, elbow or furrow in the upper lip, with the thumb-nail, or pick up the skin in these places and break the skin connection.

In case these modes of treatment do not cure the child, use the caustic treatment. This consists in twisting a bit of red paper

to a point, then dip it in gesamum oil, light it and touch it to the flesh in various parts. If it be a case of sudden fit, the child will quickly recover thereafter; if the child does *not* flinch from the fire the case is incurable.

The regulation of the diet is a very important consideration with the native physician. Melons are considered fatal in effect if eaten in any disease. In diarrhœa and fever, meat and oil are prohibited. In cases of abscesses one must be careful about eating articles of food that *work* like yeast. To this class belong fish, flour, chickens, and more especially pumpkins. In dropsy no salt is allowed for a full year. In consumption *white ducks* are allowed, but no chicken nor fish. For indigestion, eat arrow-root, flour and soft cooked rice. A few lumbricoids in the alimentary canal are considered very helpful for digestion.

Surgery is limited, mostly, to the opening of abscesses and the extraction of teeth. A fracture is never treated so that the part regains its full use. The use of sutures in extensive wounds is unheard of except in the neighborhood of foreign practitioners. Last summer, having an occasion for sewing up a wound, I did so, to the great astonishment of the natives, who speedily spread the report, "She can make seams in the human flesh! Who ever heard of such a thing before?"

I have been assured by the natives that a felon can be aborted by the early application of a pig's gall-sac, and that it quiets the pain almost instantly.

The department of obstetrics is left entirely in the hands of midwives, and consequently many a woman dies for the want of medical aid. During the month of January last, I was called to two cases where the midwives had failed in effecting delivery.

Case No. 1 was readily relieved by aid of forceps, and was doubtless the result of inattention to the bladder, which was enormously distended with urine.

Case 2 was a shoulder presentation. The liquor amnii had escaped two days before I was called, and decomposition had set in, in the protruding arm. In this case embryrotomy was the only resort practicable. The mother made a good recovery.

In order to show the varieties of diseases one meets with in

China, I will add that in the past year I have treated cases as follows:

Diseases of respiratory system, 70; diseases of alimentary system, 83; diseases of nervous system, 8; febrile disorders, 122; urinary and renal, 7; heart diseases, 9; miscellaneous medical, 62; gynæcological and obstetrical, 42; eye and ear, 115; skin, 59; surgical, 76; venereal, 122.

Leprosy is rarely seen in this province of China.

In conclusion, I would like to say, that if you have any charitably disposed Christian medical students who would find it a pleasure to heal the sick and preach the gospel to the poor, they can find no better opportunities for doing both than China, and a medical missionary's life offer. But, alas, I fear many would prefer to stay in America and soar as high as their ability permits, and all this self-denial (of a very extensive practice and opportunities that home can never afford), they make for fear of running athwart that time-honored saying, "Charity begins at home."

If you could suggest any particular lines of investigation that could be carried on without expenditure of any great amount of time, I should be pleased to follow your suggestions, both for my own sake and for the opportunity of contributing something interesting to the columns of your journal.

For lack of time in which to make a carefully written article for the press, I write simply a letter, allowing you to choose therefrom that which is worthy of publication.

Very sincerely yours,

KATE C. BUSHNELL.

EPIDEMIC WINTER DIARRHŒA.—This has prevailed in this and other cities East and West lately. It is the general impression with our local physicians that it is a follicular enteritis. As to treatment, the universal testimony is in favor of the free use of bismuth. Anodynes and mild astringents are also useful. No death from that disease is reported.

Domestic Correspondence.

ARTICLE XII.

BOSTON LETTER.

MESSRS. EDITORS:—In my February letter I mentioned a discussion upon the paper of Dr. James H. Whittemore, Resident Physician of the Massachusetts General Hospital, upon the abuse of the medical charities of Boston. The outcome of the matter is a circular recently issued by order of the trustees of this hospital, which wisely sets forth that "On and after the first of April the out-patient medical and surgical service will be restricted to such sick and disabled poor persons as are unable to pay fees. No others will be treated." The circular further states that this restriction has been compelled by an increasing attendance in this department, which already is overcrowding the resources of the hospital, and if allowed to continue will soon become unmanageable. During the year 1880 more than 37,000 visits were recorded. It has been discovered that many of these patients were not in need of charitable treatment. They quite inconsistently come long distances at considerable expense, and interfere with patients who are actually too poor to pay either fees or fares. This is a species of facial sclerosis which will no longer be tolerated. The medical attendance under the administration of this department of the hospital, has more than doubled within a single decade. The trustees appreciate the embarrassing condition of things, and while they will take firm stand hereafter in protecting the interests of the deserving poor, the limited funds of the hospital, and the proper management of their out-patient department, they will at the same time give a lesson in self-respect to the parasites who naturally will try to continue

their robbery of the hospital and of the outside physicians, to whom their cases, and the fees they should pay, fairly belong. Certainly this vigorous action on the part of the trustees should serve as an example in other cities as well as in our other medical charities. At first there will probably be some difficulty in separating the sheep from the goats, but news of this nature usually flies swiftly, and we may expect to see the number of hypocrites rapidly diminish.

I suppose that no class of workers in this busy world is so much abused and so little appreciated as physicians. We all know that but comparatively few persons find any pleasure in paying a doctor's bill. "Gratitude in a patient," says a quaint writer, "is a symptom of the disease, and it steadily lessens as the patient grows better." The doctor needs the fee for which he has given his time, experience and knowledge, but I trust he has a higher object in view, and if he relieves his patient, the satisfaction he thus derives should certainly be of greater value to him than mere money. If at the same time he receive an expression of grateful appreciation from his patient, he feels that the anxiety and care which the case has cost him have met a due reward. But the coolness with which many call for the physician's advice, without the slightest intention of making any return for it, and the settled belief in their warped brains, that the doctor's counsel costs him nothing, and that therefore he might just as well *give* it as *sell* it, indicate a moral strabismus which is past the understanding of all but the crookedest of pocket-picking human beings.

To turn to a more congenial topic: We have a Hospital Newspaper Society which is doing a most kindly and meritorious work. From boxes in the railroad stations, during the past year, over eighty-three thousand newspapers have been collected for daily distribution in the Massachusetts general and city hospitals. Sixty-three hundred magazines and books have been sent to various insane asylums, reformatory schools and lighthouses. Three thousand Christmas cards were sent to the insane, much to their delight. The report of the society shows that not only light reading, but books and magazines of solid character, have been equally appreciated. One poor fellow in an insane asylum

has been kept quiet and happy by an *algebra* ever since he received it. Hardly anything in the shape of reading matter comes amiss, and much more could be used.

If the king who entertained his horses by means of orchestral concerts lived in our day, he doubtless would insist upon giving the patients of his hospitals something better than mere bare, white walls for mental recreation. There must be a vast amount of depression among the sick in our public institutions, which cannot be relieved by a daily visit and *ter in die* doses of hospital compounds. If the minds of these people could be enlivened by cheering mental food of any nature, who doubts that the average death-rate would be lessened and the average duration of illness be shortened? The *London Spectator* has lately advocated the introduction into hospitals not only of flowers and plants, but of paintings, statuary and other works of art and beauty. It is a wise, a very wise suggestion. "Patients will tell you," says the *Spectator*, "with something like enthusiasm, of their joy as they heard the swish of the swaying, wind-tossed trees under their chamber windows, or watched the twinkling motion of the leaves of a tall poplar, the top of which might be seen from their beds. They never forget how they chanced in their many waking hours to see the moon hovering over a neighboring spire—like the dot to an i, as Alfred de Musset has it. A chance flower, a bit of verse repeated by a nurse, a scrap of music wafted from the street below, a pretty sentence in the letter of a friend, will thrill them as they never were moved before, and will cling, limpet-like, to their memories. 'I shall never forget,' says one, 'the rapture of fever patients over a bunch of bright-colored flowers, and the sight of the baby was sometimes more to patients than the visit of the doctor.' Nurses will tell you that there often comes to the most callous and withered human beings, in these times, a restless longing to see something fresh and beautiful, and that the most obtuse betray a craving to look out of the window. These are the times when the parched mind, barely capable of bearing the cheap, common grain of life, seems to show possibilities of fruit and flower; and why not use the opportunity?" The *Spectator* thinks the development of art in hospitals would be beneficial to artists as well as to the sick. For it would prac-

tically do away with the complaint among the best and most earnest-minded artists, that they so often have to paint for rather frivolous objects, quite unworthy of their capabilities. Their best pictures would no longer be buried in private houses, but would be the means of achieving great good. This opens to the charitable among the wealthy an opportunity to devote their money to a most useful and noble purpose. Let them ornament our hospitals with good and influential pictures, whether paintings or engravings. In some of the London hospitals there are pictures which not only break the monotony of the customary blank and cheerless walls, but they act most pleasantly upon the bed-ridden unfortunates who have them in view. Why not encourage this species of charity and good-feeling in our own country?

Art in connection with clinical teaching has also been suggested of late. In a lecture upon the anatomy of the joints, Dr. W. W. Keen, of Philadelphia, and Professor of Artistic Anatomy in the Pennsylvania Academy of the Fine Arts, made use of a living model to illustrate and demonstrate his subject. It was then that he affirmed that the living model should form as indispensable a part of the means of illustration in the anatomical lecture room as the cadaver. When we think of what uses might be made of such a model, it becomes very apparent that Dr. Keen's suggestion is one which deserves practical adoption.

The new medical college to which I have alluded in a former letter, is a curious puzzle to the general medical mind of Boston. The common hope is that it will do no harm. The fact that its advertisement is admitted to the pages of the *Boston Medical and Surgical Journal* proves nothing more than that this is probably a quieter method of disposing of it than its rejection. One of the professors of the school applied for admittance to our State society. During his examination, he stated that his dose of the potassium iodide was one to two drachms, but added that he did not use it in his practice. This proves whatever you think best.

Before our State legislature is a bill "to prevent incompetent persons from conducting the business of apothecaries." The requirements of the bill are quite stringent, and it is hoped it

may pass. We do not forget, however, the ease with which the bill for the regulation of the practice of medicine was defeated last winter, and therefore are not over sanguine in our hopes of the good fate of the pharmacy bill. It is a matter for sincere rejoicing that in spite of the freedom with which Tom, Dick and Harry are allowed to compound prescriptions and do counter-practice, there are comparatively so few ill results. But the dangers of illegitimate and ignorant pharmacy are immense, greater probably than those of quackery. May the day soon come when our country will be protected by medical and pharmaceutical laws as strict as those now in force in Germany.

BOSTON, April, 1881. * *

PATHOGNOMONIC SIGN OF FRACTURE OF THE NECK OF THE FEMUR.—Dr. Bezzi draws attention, in *Lo Spallanzani*, to a sign which is pathognomonic of fracture of the neck of the femur, but which is not generally known (*Buffalo Medical and Surgical Journal*). In examining the space between the trochanter and the crista ilii, it will be found that while, on the sound side, the muscles occupying this region (the tensor vaginæ femoris and the gluteus medius) are tense, and offer to the hand a considerable feeling of resistance, they present on the affected side a deep, well marked depression, a flaccidity, and diminution of tension, from displacement upward of their points of insertion.

THE INFLUENCE OF INJURIES AND SURGICAL OPERATIONS ON HEREDITARY DESCENT.—"M. Mason, of the Royal Academy of Belgium, has experimentally demonstrated that the removal of the spleen in the parent will insure a rudimentary state of that organ in the offspring. The animals experimented upon were rabbits, and the atrophic spleen of the descendant of an operated animal weighed only 9.32, the bodily weight being 1.472 grains. In the second generation of these descendants the atrophy was not more pronounced than in the first."—*Chicago Medical Review, March* 20.

Reviews and Book Notices.

ARTICLE XIII.—A MANUAL OF THE PRACTICE OF MEDICINE. DESIGNED FOR THE USE OF STUDENTS AND THE GENERAL PRACTITIONER. By Henry C. Moir, M.D. 12mo, pp. 454, cloth. New York: Steam Press of the Industrial School, H. O. A., 1881.

There is a want felt by the students of medical colleges, we are sorry to say, for concise manuals, or mere groupings and tabulatings of the most important facts known in medicine. By their help, any school boy, and some who have never been to school, (provided they can read) can commit to memory enough definitions and opinions to become a medical gentleman in a couple of four-months terms. The book under notice supplies such a want better than any other one that we know. Taking for instance, "Croupous (Lobar) Pneumonia. Stages: *First*, engorgement; *second*, red hepatization; *third*, gray hepatization. Etiology. *Predisposing causes:* Age (most common between twenty and forty); sudden change in temperature; poverty; intemperance. *Exciting causes:* Exposure to cold or wet (as chilling of the feet or body); special diseases (as exanthematous fevers, uræmia, pyæmia, septicæmia, alcoholism, etc.) Traumatism." Follow thirteen rational symptoms in order, and fifteen physical ones. "Differential diagnosis: From cerebral disease (which?) and cerebro-spinal-meningitis (in children); from pleurisy in all its forms; phthisis (second stage; from capillary bronchitis, and pulmonary œdema." In the treatment of typhoid fever: "*Quinine in large doses*, 30 *to* 40 *grains within two hours, or* 10 *grains every half hour for four doses*, etc. This is also advised in small-pox, whenever the temperature rises above

104°. As a rule, however, we must say that this book embraces a "résumé of such standard works as those of Niemeyer, Roberts, Loomis, Da Costa, Bristowe, Hartshorne, and others," and is not quite devoid of value, especially to students waiting in the antechamber of the *green room*. It is beautifully printed, with *leading* and entirely blank pages, every here and there. In enumerating symptoms, each one has a separate line, and 45 pages, devoted to prescriptions, contain 26 pages of printed matter only. So that the whole work might have advantageously appeared in a pocket-book of 200 pages, with quite a saving of money to the needy student.

ARTICLE XIV.—A TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE; DESIGNED FOR THE USE OF PRACTITIONERS AND STUDENTS OF MEDICINE. By Austin Flint, M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College; etc. Fifth Edition revised and largely re-written. 8vo, pp. 1150, half Russia. Philadelphia: Henry C. Lea's Son & Co.; 1880. Jansen, McClurg & Co., Chicago.

This favorite old friend of medical students and practitioners, now appears with such valuable improvements, that it will certainly resume its place at the head of the "manuals" most used in this country. The want for a revised edition of this book has been felt in many medical colleges, especially since 1874, when the first volume of Ziemssen's Cyclopædia was published. A more valuable work is not found in the United States, while none of the foreign books are well adapted to our present wants.

From the Preface: "The labor of the revision has been shared by Dr. William H. Welch, Lecturer on Pathological Histology in the Bellevue Hospital Medical College. * * It may be claimed for the present edition that the eliminations, substitutions and additions render it essentially a new work * * the author ventures to hope that it may be found to represent fairly the existing state of the science of medicine with respect to the subjects of which it treats, and to reflect the views of those who exemplify in their practice the present stage of the progress of medical art." In the chapter on Phthisis, a disease which has been

so carefully studied and so successfully treated by the author, he says that he never met an inebriate who owed it to the medical use of alcoholics in that affection. As a valuable remedy in the treatment of whooping cough, oxalate of cerium has been forgotten. A feature of this manual is the variety of useful modes of treating diseases which are found to fill the expectations of the most sanguine, and open a wide field to clinical study and experiments. H. D. V.

ARTICLE XV.—A MANUAL FOR THE PRACTICE OF SURGERY. By Thomas Bryant, F.R.C.S., Surgeon to, and Lecturer on Surgery at, Guy's Hospital; etc. Third American, from the Third Revised and Enlarged English Edition. Edited and Enlarged for the use of the American Student and Practitioner, by John B. Roberts, A.M., M.D., Lecturer on Anatomy and on Operative Surgery in the Philadelphia School of Anatomy; etc. With 735 Illustrations. Large 8vo, half Russia, pp. 1005. Philadelphia: Henry C. Lea's Son & Co.; 1881. Jansen, McClurg & Co., Chicago.

For medical students this is one of the most valuable works on surgery, embodying as it does the views and experience of so eminent a surgeon as Mr. Bryant. It will even answer the purpose of many practitioners, but not as well as the classical work of S. D. Gross, or the late treatise of Agnew. American surgery has, since the rebellion, acquired a national character which should not be overlooked. Fractures and dislocations are not treated at sufficient length, less than 100 pages being consecrated to that important part of practical surgery, in such a manner that a supplementary volume, like that of Hamilton, would be needed to complete the work. The illustrations are all that could be desired. The additions of the American editor are most practical, and one wishes that they were more numerous. The half Russia leather binding of this and other volumes just published by the same firm, is very pretty, and will advantageously compare with all other bindings on the shelves of every library, though they have a disadvantage which they partly share with cloth covers, and are permanently injured if their sides are exposed to rain or water. H. D. V.

Article XVI.—Student's Pocket Medical Lexicon: Giving the Correct Pronunciation and Definition of all Words and Terms in General Use in Medicine and the Collateral Sciences, the pronunciation being plainly represented in the American phonetic alphabet. With an Appendix containing a list of Poisons and their Antidotes; Abbreviations used in Prescriptions; and a Metric Scale of Doses. By Elias Longley, author of a "Pronouncing Vocabulary of Geographical and Personal Names;" "Eclectic Manual of Phonography;" and a Series of Phonetic School Books. 16mo, cloth, pp. 304. Philadelphia: Lindsay & Blakiston; 1879.

This dictionary contains about the same number of words as "Wood's Medical Lexicon," which is better known to students. The introduction of twenty new letters or signs, borrowed from various alphabets, seems more an incumbrance than an improvement in the pronouncing part. Besides the excellence of its typography, it has no special merit of which we are aware, and does not fill the want of a lexicon, wherein definitions of many new words in medicine should be found. H. D. V.

Article XVII.—An Index of Comparative Therapeutics, with Tables of Differential Diagnosis, Dose List, Etc. By Samuel O. L. Potter, M.D., President Milwaukee Academy of Medicine, etc. Chicago: Duncan Brothers; 1880.

"The object aimed at in this book is to present the therapeutics of the two great medical schools in the manner best adapted to comparative study and quick reference." The remedies recommended by some of the most eminent teachers in both schools (allopathic and homœopathic) are arranged in parallel columns for convenient references. The work is not exhaustive; only the outlines of the subject are given. It contains no new information. The chief interest of the book is the comparison between regular and homœopathic therapeutics. B. W. G.

BOOKS AND PAMPHLETS RECEIVED.

The Principles and Practice of Surgery. By D. Hayes Agnew, M.D., LL.D. Vol. II. Philadelphia: J. B. Lippincott & Co.; 1881.

Medical Diagnosis with Special Reference to Practical Medicine. By J. M. DaCosta, M.D. Philadelphia: J. B. Lippincott & Co.; 1881.

A Practical Treatise on Diseases of the Skin. By Louis A. Duhring, M.D. Philadelphia: J. B. Lippincott & Co.; 1881.

A Manual on Diseases of the Eye and Ear, for the use of Students and Practitioners. By W. F. Mittendorf, M.D. New York: G. P. Putnam's Sons; 1881.

Syphilis and Marriage. By Alfred Fournier. Translated by P. Albert Morrow, M.D. New York: D. Appleton & Co.; 1881.

On the Construction, Organization, and General Arrangements of Hospitals for the Insane. By Thomas S. Kirkbride, M.D., LL.D. Philadelphia: J. B. Lippincott & Co.; 1881.

How to See with the Microscope. By J. Edwards Smith, M.D. Chicago: Duncan Brothers; 1880.

An Elementary Treatise on Practical Chemistry and Qualitative Inorganic Analysis. By Frank Clowes, D. SC. Philadelphia: Henry C. Lea's Son & Co.; 1881.

On the Use of Cold Pack, followed by Massage, in the Treatment of Anæmia. By Mary Putnam Jacobi, M.D., and Victoria A. White, M.D. New York: G. P. Putnam's Sons; 1880.

The Heart and its Function. D. Appleton & Co.; 1881.

Manual of the Physical Diagnosis of Diseases of the Heart. By Arthur Ernest Sansom, M.D. Philadelphia: Presley Blakiston; 1881.

A Guide to the Clinical Examination of Patients and the Diagnosis of Disease. By Richard Hagen, M.D. Boericke & Tafel, New York and Philadelphia; 1881. Translated by G. E. Gramm, M.D.

An Index of Comparative Therapeutics. By Samuel O. L. Potter, M.D Chicago: Duncan Brothers; 1880.

Aids to Diagnosis—Part II; Physical. By J. C. Thorowgood, M.D. New New York: G. P. Putnam's Sons; 1881.

"Doctor, What Shall I Eat?"—A Handbook of Diet in Disease. By C. Gatchell, M.D. Milwaukee; 1880.

A German-English Dictionary of Words and Terms used in Medicine and its Cognate Sciences. By Tancourt Barnes, M.D. Philadelphia: Presley Blakiston; 1881.

The Bacteria. By Dr. Antoine Magnin. Translated by George M. Sternberg, M.D. Boston: Little, Brown & Co.; 1880.

Spectacles, and How to Choose Them. By C. H. Vilas, M.A., M.D. Chicago: Duncan Brothers; 1881.

Aphorisms in Fracture. By Richard O. Cowling, A.M., M.D. Louisville, Ky.: John P. Morton & Co.; 1881.

On "Kerion Celsi;" A Variety of Tinea Tonsurans. By I. E. Atkinson, M.D. Reprinted from the Archives of Dermatology, Vol. VII, No. 1; January, 1881.

Seventh Annual Report of the Superintendent of the Cincinnati Sanitarium for the year ending November 30, 1880.

Erysipelas of the Larynx. By Wm. Porter, A.M., M.D. St. Louis: Re printed from Archives of Laryngology, Vol. I, No. 4, December, 1880.

Higher Education of Medical Men, and its Influence on the Profession and the Public. By F. D. Lente, M.D.

Colorado for Invalids. By S. Edwin Solly. Reprinted from "New Colorado and the Santa Fe Trail," by permission of Harper Bros.; 1880.

A Conspectus of Three Different Forms of Cardiac Trophic Disease. By Roswell Park, M.D. Reprint from the "Southern Clinic."

Proceedings of the Convention of Druggists, and of the First Meeting of the Illinois Pharmaceutical Association, held at Springfield, December 7 and 8, 1880.

Transactions of the Eleventh Annual Session of the Medical Society of Virginia; held in Danville, October 19–21, 1880.

Zymotic Diseases in New York.—Three thousand eight hundred and ninety-four deaths reported in 1880, were referred to zymotic diseases, influenced or aggravated by defective plumbing.

Condensations from Late Editorials in the Medical Press.

THE NATIONAL ASSOCIATION FOR THE PROTECTION OF THE INSANE held a meeting in Boston recently which was notable in many ways. * * One of the topics of discussion, opened by a letter from Dr. Joseph F. Parrish, was that of the etiology and prevention of insanity. Dr. Parrish referred to the fact that insanity arose so largely among a wearied and restless class in whom bodily and mental vigor were sadly disproportionate. He believed that there ought to be more institutions for the treatment of persons who are only on the border-line of insanity, in the "crazy circle" of Crichton-Brown. Dr. H. B. Wilbur, referring to the same subject, expressed his belief that insanity depended on predisposing causes—hereditary, social, and individual—rather than exciting causes. While our civilization increased it, education and study did not, if applied in a proper way. Dr. Nathan Allen said that in his experience ill-health caused more insanity than any other agency. Dr. Allen and Dr. Kenniston, in a subsequent speech, asserted that intemperance was a great cause of insanity, and that any diminution in the former would equally affect the latter. Dr. W. W. Gooding feared that we must accept brain disease as one of the penalties of a higher development, hinting a possible future arrest of a growth of mind aspiring to be god-like.—*Medical Record.*

They seem to overlook the fact that mental disease is often a result of uterine diseases in the female; and that, as Dr. William Hammond asserts, a great many cases of insanity are easily traced to superstition, to disappointed love, and other excesses of passions.

The Abolition of the Office of Coroner.—In attempting to reform the present system it is necessary to take into consideration the abolition of the coroner's jury, the division of the office of coroner into two distinct functions, and the creation of a new system of appointment whereby fitness for the duties will be guaranteed. These are, on their face, reasonable propositions, and are capable of easy fulfillment by the enactment of a suitable law. The passage of such a law could be urged, not only on the ground of general utility, but on the score of economy. It has been proved, time and again, that the verdict of the coroner's jury has no possible bearing upon the subsequent judicial proceedings; in a word, is useless as a judicial measure, gives no security to the accused, is burdensome upon the citizen, and expensive to the State. The coroner, as an officer, is of no importance, qualified neither for medical nor judicial examinations; he is practically a direct incumbrance to the course of justice. All the valuable part of his services is performed by his deputy, who is the medical examiner. The combination of the duties of two offices into one could be made without any possible loss to the State as to actual service, while the salary of the coroner would be saved. Under the Massachusetts law, the saving to the State in criminal proceedings has been one-third with the advantage of the services of skilled experts, and the smooth, prompt working of a perfect judicial process.—*Medical Record.*

The Harvard Medical School, and Reforms in Medical Education.—The annual report of Harvard University for the year 1881 is extremely interesting to those who care to know what progress is being made in elevating our methods of medical education. The medical department of this university is in a prosperous condition, and has great reason to congratulate itself upon the good work that it has done. The whole number of students in attendance during the three terms of the past year averaged two hundred and fifty-one. An appreciation of the advantages of spending the time of study at the college is shown

by the fact that eighty-six per cent. of the graduates in the above year had been in attendance during six collegiate terms. The difference between this condition of things and that in most other medical schools, where two terms is the maximum, is very striking. The plan of introducing preliminary examinations has had an extremely favorable effect upon the *personnel* of the college. Nearly one-half the students have literary or scientific degrees." —*Medical Record.*

The proportion of students who came up for the examination and were rejected was nearly one-third.

THE DECLINE OF THE BIRTH RATE.—Some German Scientists, after a careful investigation into the causes of poverty, misery and crime, have come to the conclusion that an excessively high birth-rate is a frequent cause. This has also been the conclusion of every poor man who has had to rear a large family since the days of Adam. It is wonderful how philosophers revel in highly sounding words facts, which the most ignorant never doubted. Whatever the opposition which the doctrine of evolution may encounter, mankind practically knows that the first and necessary quality of an adult man is to be self-sustaining, and he must be more than that if he marries, for he must now sustain a wife and children; and the number of these he will endeavor to limit according to his powers of sustenance, if not influenced by other motives than those of preservation. John Bascom, in a late work on the Science of Duty, says that only the poor and the improvident think that they have a right to multiply indefinitely. By looking at the subject in another light, I believe, one must come to the conclusion that the strongest plea for public prostitution rests on that same fact: the inability of one to provide for a numerous offspring, or even for a wife. Although it is also a fact that sexual life absorbs a large share of the thoughts and actions of men.

As there is no end to discussions of this character, especially now that we discard empirical views, and refer to the uniform course of nature, what are the practical results to be gathered

from well-known facts? 1. Marriage should be delayed until both contractants are able to provide for themselves and a few children; this is a great conflict with the natural feelings of mankind, for it does away with the most fecund years of the female and induces marriage after the twenty-fifth or thirtieth year. 2. Right or wrong, the prevention of conception has been practically tested in this country as well as in France, and gives results which seem very satisfactory to the parents, but hurtful to the country. 3. A large proportion of mankind being barred from the marriage state, for reasons indicated above and others, claim the right of a natural life, and become the strongest support of prostitution.

The *Medical Record*, in an editorial on the above subject, considers the increased birth-rate as a very small factor in producing distress in Germany, and refers to the expenses of keeping an army of half a million. As to the moral, it says: "The medical profession has, however, always been unanimous in discountenancing the tendency to seek irregular means for limiting the number of the family. * * * * The view that a low per cent. of births is a political necessity does not hold good in this country at any rate."

High Mortality in New York—The Causes of It.—The city has never been in such an unsanitary condition before for such a long period, and has never been afflicted with such a relative mortality. * * * * Although the condition of our streets is, doubtless, the main cause of the malignity of disease and the high rate of mortality, it is not the only one. The drinking-water has been in a bad condition, and has been insufficient in supply. In many parts of the city, for months at a time, the pressure has been so low that water could not be obtained above the first stories of dwelling houses. As a consequence traps became dry, water closets were not flushed, and sewer-gas entered freely into the houses.

Again, the condition of the sewers must not be lost sight of. Aside from being improperly constructed, they have been compelled to find egress for the washings from the miles of gutters

loaded with the rotten refuse of the tenement districts. Of course there is ventilation for the sewers through the houses by means of roof pipes, but it is a question whether the authorities will not now be compelled to get rid of the surplus of noxious gases in some other way.

And still again, it seems proper to take into account the influence of the nuisances of Hunter's Point, of the abattoirs on the east side, of the unsanitary condition of our public schools, and of the crowded state of our tenement districts. All these are factors of greater or less influence upon the mortality of our city, and should be duly estimated in the advocacy of reformatory measures. The streets must be cleaned, but other important matters must also receive attention.—*Medical Record.*

An outbreak of typhus fever has appeared in New York. On March 26th, there were thirty-four cases suffering from the disease in the Riverside Hospital. They were taken from their homes, lodging-houses, and from the German, Charity, Bellevue, St. Francis, and U. S. Marine Hospitals. All, except one from the latter hospital, have been traced to the Shiloh lodging-house, a cheap resort for tramps, which often accommodates five hundred persons nightly. Small-pox has been discovered in the same place, which is now under the care of the sanitary officials.—*Ibid.*

SCARCITY OF DISSECTING MATERIAL.—In one of the metropolitan schools of London but one subject had been received for dissection up to December, while the number of students awaiting material exceeded ninety. The object of the recent "Anatomy Act," was to increase facilities for studying anatomy, but it has signally failed. This state of affairs tallies with our own. Anatomy Acts here, stimulated by an indignant public, are paralyzing good medical training. Officers of public institutions, says the act, *shall* give up unclaimed bodies. There is no penalty incident to violating the act, and thus those officers openly avoid the true intent of the law. Dissection is a *sine qua non*. This fact is indisputable, axiomatic. The State must permit easy access of material. Officers of public institutions, where un-

claimed bodies may lie, must be compelled to *notify* medical colleges, and suffer the peaceable removal of cadavers. Such action could not offend public morals, and must increase the facilities for medical teaching.

In Maine, a medical degree cannot be obtained without the doctor violating law; for he must dissect to fulfill the conditions of the degree, and a cadaver cannot legally be secured. Such absurdities are humiliating. The recent Ohio legislation has not been much better; but we hope the present legislature will take some sensible action in this very important matter.—*The Ohio Medical Recorder.*

Cremation.—"At present Germany and Italy are the only European countries where incineration of the dead is really practiced. It is far more popular in the latter country than in the former, and Milan is now the chief cremating center. During the past four years over seventy bodies have been burned in the furnace in that city. There have been ten or fifteen cremations at Lodi, and a larger number at Gotha. The number is greater, however, each succeeding year, and there is every sign of a growing popularity of the practice. In England the sentiment of many of the very best men is either in its favor or not against it. The graveyards are a bane to England, and in some places another mode of disposing of the dead is almost a necessity. The Earl of Beaconsfield, the Bishop of Manchester, and others have spoken loudly upon the danger to health of the English churchyards. Since last summer quite a strong feeling in favor of cremation has shown itself among medical men. The total cost of a cremation at Milan is nearly ten dollars. To this must be added the cost of bringing the body to the crematorium.

"We have, before this, expressed our opinion in regard to the practice of cremation. From a sanitary point of view it is to be highly commended, and is, indeed, in some places, particularly in the crowded cities of the Old World, almost a necessity. The objections to it are made on æsthetic, on economic, and on medico-legal grounds. Regarding the first, none have successfully refuted the argument that it is only prejudice which makes the

practice seem revolting or irreligious. It is claimed that cremation may destroy evidence in criminal cases. And it is certain that there will have to be special legal regulations of the practice. It is probable that after all cremation will succeed or fail, according as it does or does not afford a means of disposing of the dead more cheaply and decently than by burial. If cremations are expensive, and crematories offensive, they will not become popular, even though graveyards are unwholesome. The principles of economic science live after us. As far as experience goes now, it seems likely that cremations in large cities can be done cheaply. And here the sanitary value of the practice is most apparent. We shall watch with interest the work and progress of the New York Cremation Society."—*Medical Record.*

BELLEVUE HOSPITAL MEDICAL COLLEGE.—The faculty of this well-known college has returned to the two-years course of study. Only fifty new students were registered since last fall. This is not so good a result as Harvard's, quoted in this article. Perhaps we might consider the Medical Colleges as affording only preliminary training. The majority of practitioners attend post-graduate courses, study in hospitals, or abroad, or practice a few years with their preceptors, and very few pretend to refer their success in practice to the few data committed to memory during two medical courses. The advantages of lectures are always limited, and it is a question if more repetition would be followed by better results.

SMALL-POX HOSPITALS IN LONDON.—This caused some agitation in the London press and the House of Lords a short time ago. Vaccination in the metropolis has not been received with more favor than in Chicago, although the belief in its efficacy is deeply rooted in the medical profession of London. It is even asserted by the *British Medical Journal* that, as statistics regarding the attendants and nurses of small-pox hospitals show, persons efficiently vaccinated and re-vaccinated may live with impunity in the company of the variolous. But it seems that the non-

acceptance of such views by the people at large is the cause that small-pox remains endemic and necessitates special hospitals, These are not without danger in a city like London, but it is acknowledged that ambulances are a more common source of risk, and should be so constructed as to be readily recognized.

"So long as vaccination remains in its present unsatisfactory condition, small-pox hospitals will be necessary; and we are of opinion that these hospitals may be so conducted as to be harmless to the neighborhoods in which they may be placed.—*The British Medical Journal, March* 12.

Proposed Royal Society of Medicine in England.—The important question which Mr. Erichsen revived in the interesting address with which he concluded his prosperous and dignified presidency of the Royal Medical and Chirurgical Society, is one on which, we believe, a large preponderance of opinion will be found to support the conclusions to which his experience has conducted him. The advantages of the scheme are so palpable, that it might hardly seem necessary to set them forth. The great object of those who urge the amalgamation of the Royal Medical and Chirurgical, Pathological, and Clinical, and others, into a single society, is to prevent the waste of material and the overlapping which is so strongly felt under the present system; to render the new institution grander and more commensurate with the dignity and the increasing public importance of the science of medicine; more ready and more fit to assist the government and the public, on occasions of emergency, with counsel and assistance such as can hardly be obtained at present even from the colleges, and certainly from no other institution. Along with this it is believed that such an amalgamation will place the new Royal Society of Medicine on a firmer financial basis, and render its continuance more secure than can be said to be the case with the present societies—even the oldest and most dignified of them. The scheme was so near success in 1870 that it is almost difficult now to see why it was dropped. If it be heartily advocated and properly worked out now, we do not see why it should not be soon realized."—*Ibid.*

SWEATING DISEASE.—In July, 1880, an epidemic of sweating disease (*suette miliaire*) of which we know very little in this country, carried away 142 victims among 1,000 cases attacked, in a population of 20,000 at Oleron. This is an island off the coast of France in Biscay Bay. The same disease raged 31 years ago in three departments, and was scientifically investigated. It has been endemic since in various localities. It is an infectious disease, but it is doubtful if it be caught directly from one person by another; it is more probable that it is communicated in the manner of Asiatic cholera. In 15 days the whole island had been invaded. Symptoms: An abrupt start, rapid evolution, profuse perspiration, a peculiar eruption, pain in the epigastrium, distress in breathing, often giving rise to a sense of suffocation, constipation and loss of sleep, fever and delirium. Death may supervene in 12 hours. Six hours after death the cadaver exhales a horrible stench, and a fetid blood sometimes runs out of the nostrils and mouth. This seems the origin of the contagium; and as in Oleron the coffins are carried to the churchyards on men's shoulders, this might also partly explain the rapid spread of the epidemic. The temperature has ranged from 40° to 43° C., in grave cases (104° to 107° F.). Treatment: Ipecacuanha in scruple doses, 1 gr. 5, once in 24 hours, seemed very useful. Quinine is said to have failed in reducing the temperature. Cold packs were efficient; they encourage the eruption.—*Communication of Dr. Jules Rochard to the Académie, at its séance of March* 1, 1881.

BACTERIA AND FRENCH ENTHUSIASM.—The JOURNAL AND EXAMINER has given to its numerous subscribers, in November and February, faithful translations of some valuable experiments with bacteria in France. The subject has now created so much enthusiasm in that country, that we could not form an idea of it here, were it not for the injury done to American trade by the edict prohibiting the importation of American pork in France. We know that the edict followed the discovery of the *trichina spiralis* in some hams imported from America, although no epidemic, nor even individual deaths had been recorded. Some

members of the Académie de Médecine have forgotten their dignity and quarreled over the experiments; and discoveries have been announced and echoed from the boundaries of the country before they had even been made.

However, there is something worthy the admiration of the scientific world in the fact that in the laboratories of the Parisian Normal School such mortal viruses as those of hydrophobia, of anthrax, and of septicæmia are daily manipulated by experimenters. The capital invested in these researches also deserves some attention. The state had to become interested in them to some degree before it would put at the disposition of experimenters the flocks of sheep of the ex-imperial farm at Vincennes, and those of the school of Alford. Some investigators were sent to Auvergne, Beauce, and even to Algeria by the State, and military veterinary surgeons were enjoined to assist them. The opposition so far has been vigorous enough to test, and thereby render more brilliant, the results which amount to this:

M. Semmer, of Dorpat, experimenting with due regard to the conditions advocated by Pasteur, has succeeded in vaccinating rabbits for septicæmia. M. Toussaint vaccinated sheep successfully for anthrax, and obtained the wonderful result of an hereditary immunity from that disease in the young. A short time ago, two veterinary professors of Lyons having vaccinated successfully for a form of anthrax in a locality where the disease is endemic, a cattle insurance company had 250 cattle of the bovine species vaccinated with the vibriones of the anthrax virus. Although these facts are not numerous yet, and involved in some obscurity, although they may not be so practical as they appear to such men as Pasteur and Toussaint, yet they are certainly interesting, and it is a pity that, with the vast resources afforded by the government, state boards of health, and especially by private fortunes here, they are so little investigated.

Selections.

THE PHYSICIAN'S LEISURE; A PLEA FOR THE STUDY OF ARCHÆOLOGY.* By Dr. CHEVERS.

Gentlemen :—When an old physician is asked by a young one, or by a student of medicine, to advise him with regard to his course in life, as you have requested me, one of the soundest, yet perhaps not the most courtly or most original, pieces of good counsel that he can offer is—"*Mind your business!*" Still, this monition would be very imperfect, nay, almost useless, if allowed to stand alone without its proper and natural adjunct, "*Allow yourself a small, but fair, complement of leisure, and occupy that leisure to the best possible advantage.*"

In a long experience, I have known several medical men who had no occupation except the practice of their profession. Most of these were deservedly successful workers; and so far, you will say, they did wisely and well. Still, I noticed that those intervals of business, which must and ought to occur rather frequently in the life of every active man, appeared to be scarcely employed with advantage by them. They could not read, they were not artists or chess-players. They smoked or chatted, or played billiards—which no gentleman in India, or, let us trust, elsewhere, ever does in a public room. And thus they obtained both mental and physical rest; but that rest was certainly not of a high or intellectual order. As a means of recuperating the tired mind it could hardly be regarded as more valid than sleep. Had

* This address was written about two years ago, at the request of the author's friends, the pupils of a medical school, with a view to its being read at their physical society. This intention was not carried out; and it now appears that the opening of a session is a proper occasion for bringing the subject forward.

they taken long walks or rides, I should have thought that they occupied their leisure better. Still, it has always appeared to me that, except it be taken *with an object*, a ride or walk is a simply tiresome proceeding. The medical man who delights in such exercise ought to be a botanist, an entomologist, a geologist, or an antiquary; or he ought, at least, to follow the hounds, or the trout, or the partridges.

Again, the physician who is most devoted to his profession must occasionally have other and longer intervals of rest forced upon him. He falls ill; or, having made his fortune, he retires. Where, under these circumstances, is his intellectual life? What charming prospect of well-earned and long-desired healthy mental and physical recreation lies before him? His mind has been trained to work only in a single deep but narrow groove, and now the way of its advance is actually barred. You will say he may, even in permanent retirement, continue to be a student in his profession; there is always plenty to learn in medicine as the science makes progress. No! That track is closed against him. The more a practitioner has loved the cultivation of his profession, for its own sake, in active life, the less he cares to study it in retirement unless he be himself a writer. To watch passively the stately onward march of that science of which he has ceased to be a leader and a master, and to sit idly watching the daily race in which he, yesterday, an athlete, is now paralyzed as far as active competition and valid advance are concerned, produces in his mind a sense of natural, though confessedly selfish, pain. He says, "I am left behind; I am forgotten!" or, in a nobler frame of mind, he sighs regretfully, and uses the words which a poet has given to Joan of Arc in prison—

"I am God's broken sword!"

"It is no longer granted to me to administer the noble and saving power with which I was entrusted by my Maker; the great object of my life has been snatched from my grasp; I am blind, or a cripple, or an aged man, and now my existence affords me no prospect of rational pleasure!" It may certainly be argued, the man whom you pictured just now is not, in the first place, a very highly cultured, intellectual being, and you imagine for him

regrets which he is scarcely capable of entertaining;—dominoes remain perfectly open to him, or he will probably be well satisfied to decline into "an old age of cards." Still we must remember that the majority of ourselves are only average people; and I think it incumbent upon each of us to consider how that rest and leisure which are so needful, and so exquisitely welcome and delightful to the majority of working men, can be prevented from becoming to us a mere shunting into some Sleepy Hollow, in the fruition of which the very hybernating animals are our superiors.

Some of you may then inquire of me—How am I to elect the best means of employing my leisure? To this I must reply—Nature will often teach you this. From your earliest youth you have possessed an ear for music, or a tendency to draw upon your slate, or a love for healthy field sports and the best pleasures of a country life. Thus constituted, you are fortunate men, and there is nothing in the profession of medicine that refuses to allow you to devote much of your leisure to music, drawing, hunting, shooting, cricketing, or boating. Or, happily, you may start in life with natural gifts which are, to the physician (drawing being excepted), far more appropriate than these. You may be endowed with a mechanical gift, or you may feel a keen interest in all that relates to the lower animals, or you may so love reading that scarcely any book fails to interest you. It was by the cultivation of such natural instinctive tendencies as these that William Fergusson, John Hunter, and James Copland did so much towards rendering our science illustrious. If he had the making of his own mind, every medical man ought to become either a zoologist, a geologist, a botanist, a chemist, a draughtsman, or a scientific mechanician; and should, in the pursuit of one of these collateral sciences, find ample occupation for his leisure. But, certainly most fortunately, we are not all self-made; a natural, inborn taste, however excellent, cannot be forced upon us; and not a few of us must confess, with regret, that there are, among the beautiful sciences collateral to medicine, more than one the full acquisition of which is practically impossible to us. Still, we must all, if we wish to pass the dawn and the evening of our active lives pleasantly as well as success-

fully, look around us for some soft and smooth pillow upon which the aching brow and the overtasked mind can seek repose and recover working energy.

A very sad fate, not at all well understood by the public, and hardly enough recognized by the profession, not unfrequently falls upon a man of the grandest intellect. In his case old age advances, and with it reputation suddenly rises to its highest point, and work comes in with almost overwhelming pressure. In that once admirably organized mind and body senile changes have set in, decay has commenced, the heart is somewhat weakened, the cerebral arteries are becoming narrow and rigid: but the artist's picture must be finished for the exhibition of the 1st of May; the physician's visiting-list is so overwhelmingly full of appointments that he almost sobs as he shuts his diary, knowing that, immediately he declares himself unequal to work, practice will leave him; the writer of brilliant leaders is irrevocably pledged to insert so many columns, and not one less, on the most intricate question of the day, in to-morrow's journal; the judge finds himself within twenty hours of the task of summing up in his court the evidence which has occupied the attention of a jury and of all Europe for many weeks. All these are met by one Satanic prescription. The Tempter whispers, "Drink port wine, my learned or artistic friend, as did more than one great painter whose history is too recent and too sad to need further mention, and as Lord Stowell did; try gin-and-water, used-up essayist, as Lord Byron did, and find in it immediate inspiration!" And, fatally, so it is. The trembling hand is steadied, and throws upon the canvas a glow such as Nature rarely sheds over sky and sea and wold; for three hours to-morrow the aged voice will ring clearly down from the seat of judgment in broadly decisive arguments which will stand in the law reports, as irrevocable judgments, for a century to come; and thus, for a few more months or years, the sad, evil, and shameful succession, the *facile descensus*, will be—stimulation, effort, collapse, and then stimulation again, until apoplexy, delirium, or suicide closes the miserable and most unfair struggle. And then the world will say—"He was a man of genius; but, latterly at least, a wretched sot!" We may trust that He who made and endowed him, who

raised him into a position to which very few but a Gull, a Cockburn, or a Beaconsfield are fully equal, and who knows how fallible he was and how sorely tried, will award him a juster verdict. What now ought either of these unhappy men to have done to escape the threatened fate? Should he not have retired from business before the beginning of the end set in, occupying, as James Blundell and William Macready did, and as James Annesley and Edward Waring and several other Indian physicians have done, a long retirement in literary leisure? Failing the means to do this, should he not, like Sir Henry Holland, be content with moderate success and wealth, and devote a portion of each year to foreign travel, the best of all rests and tonics to a worn brain and a feeble digestion? Or, with less time to spare, ought he not to seek a more vigorous life (or, it may be, find death, as they found it) in the saddle, as Samuel Wilberforce did, or as John Liston did, in his yacht on the Thames? Or, allowing himself still fewer spare moments, might he not follow the example of Richard Bright or Francis Sibson, and spend some of his evenings in delightful contemplation of his folios of early German engravings or his cabinets of Wedgwood ware?

These latter allusions lead me to the proposition that he who rest his mind by judiciously employing his leisure as a collector often finds that he can work more steadily and better and farther on in life than many of his neighbors do. The "collector," of sound principles and well-balanced mind, leaves his work as gaily and as hopefully as the boy leaves his school-house, and returns to it again bright, active, and refreshed. In pursuing his collection, there is no part of the town or of the country to which he does not penetrate, full of thought and of pleasant inquiry and interest. Whether he is in search of a rare postage stamp, or a dog's-eared little Elzevir, or a plant which has taken up its habitat in some almost inaccessible spot; or whether, like Joe Grimaldi, he starts after the pantomime is over and walks nineteen miles to Dartford that he may be in time to catch a Camberwell Beauty in the early morning, his mind is never in want of a desirable and exhilarating object of pursuit, while his body is refreshed by the most invigorating exercise.

I can scarcely imagine a drier-mannered and more reticent

little old philosopher, or one who, in his public life, gave one the idea of being less capable of amusing himself, than Richard Bright, the expositor of Morbus Brightii, was. I was lately surprised to learn, from a leading print-seller, that, often as late as twelve o'clock at night, Dr. Bright would knock him up and say, "Now, Mr. Faussett, let me see those engravings. I have not had a minute to spare all day long!" He was a diligent and judicious print-collector.

But the maxim that the active collector is generally a bright and indefatigable worker, is worse than useless without the correction that *he must not allow his passion for collecting to encroach either upon his business or his means.* As a general rule, a not very rich but conscientious collector is, in all his affairs, collecting, classifying, and assorting, in his business and in his household, a man of order and method; and, if it be only to find the means of collecting, he is usually industrious, economical, and moderate in all things. But collecting may become an engrossing, overpowering passion, and passion is only one remove in kinship from vice. Some years ago, an English nobleman resolved that he possessed taste, and became a collector. Now, when a well-to-do Duke determines that his collection of pictures, or of statuary, or of gold medals, or of antique gems, or his conservatories, shall be the finest in the world, he encounters a very stiff but not quite impracticable task; but, unhappily, this magnate attempted all these collections at once, and, very naturally, discovered, rather early in his career, that his magnificent revenues were seriously compromised.

The collection of medal portraits in the library of our College of Surgeons was made by a banker, Henry Fauntleroy (who, after he was hanged, was unkindly called Corduroy). But, although a man of taste, this individual was self-indulgent and cruel as a Sybarite. His passion for collecting and other less happy proclivities brought his career to the consummation which I have indicated; but, as Sir Joseph Fayer has shown that every venomous Indian serpent has a harmless snake which closely resembles it, so every virtue has its corresponding vice.

These remarks will prepare you to receive the proposition that a love for Archæology is calculated to afford a delightful solace

to the hard-working medical man. Several of you may be so considerate as to take up this proposition for the moment, and to inquire—How am I to become an antiquary?

I will at once put your question to a crucial test. In amusing yourself in your garden, would you rather find a spade-guinea of last century or a lar of Mars? Or rather, in estimating one object against the other, would you value the coin because it is an object of a certain intrinsic value and a pretty appendage to the watch-chain, and despise the other because it is a not very artistic little image of ugly bronze, not intrinsically worth its weight in copper, with the erugo thick upon it? If so, you have not a spice of true antiquarian enthusiasm, and I can only beg you to endure me as I proceed, but never to attempt to learn to become that for which the natural bent of your mind has not fitted you. I conscientiously believe that, whenever a medical man can take kindly to the study of antiquities,—it need not, to be useful to the individual, go beyond mere dilettantism,—it will not only afford him life-long pleasure, but will, properly directed, validly aid him in the study of his profession. It is a mere platitude to declare that a physician who knows nothing of the history of medicine, is as ignorant and narrow-minded a professor as is the statesman who is unacquainted with the political history of his country. The history of every branch of the profession which you and I have happily embraced is full of interesting and valuable teaching; for it must be remembered that our predecessors, although imperfectly grounded in physiology and pathology, and by no means free from credulity and superstition, were often acute, cultivated, observant, and deeply reflecting men, who frequently obtained glimpses of great truths which, having been imperfectly perceived, lapsed into oblivion for centuries. Take a few points, out of hundreds, in several branches of our science. Thus, in Surgery, English surgeons, a hundred years ago, had no specula; the Pompeian surgeons had. Peter Lowe, surgeon to Henry the Fourth of France, taught that the proper treatment in strangulated and incarcerated hernia is puncture; which has, of late, been used with some advantage in cases of intestinal obstruction.

[TO BE CONCLUDED.]

Obituary.

IN MEMORY OF DR. M. O. HEYDOCK.—Resolutions offered at the meeting of the Chicago Medical Society, April 18, 1881, by the committee appointed at that meeting, relative to the death of Dr. M. O. Heydock:

Resolved, That in the death of Mills Olcott Heydock, M.D., on the morning of the 17th inst., after a brief and severe illness, this Society has lost one of its most esteemed members, the profession one of its most enlightened and useful practitioners, and society a most valuable citizen.

Resolved, That we deeply sympathize with the widow and relatives in their severe affliction, and commend them for consolation to the great Giver of all good, who alone can heal the wounded spirit.

N. S. DAVIS,
WM. E. CLARKE,
R. G. BOGUE.

Per L. H. MONTGOMERY, *Secretary*.

EULOGIUM BY DR. JOHN BARTLETT.—*Mr. President:* It is a painful occasion to us all to-night, when are to be uttered the last kindly words in remembrance of our late fellow, Dr. Heydock. It is an occasion especially sad to those of us, who by concurrence of age, and period of residence here, have the more intimately associated with him who has so suddenly been called hence.

Mr. President, while words of sorrow at the departure of a loved friend are so faintly expressive of one's feeling as almost to

prepare the silence which grief invites, yet as the stricken heart of man can but seek relief in utterance, something needs be said ere the name of M. O. Heydock fades from our lists. To a natural adaptation for his profession, Dr. Heydock brought the advantage of a superior intellect, well trained by the mental athletics incident to the acquirement of a collegiate education. To these qualities were superadded in Dr. Heydock a genial disposition, coupled with an urbanity and pleasing dignity of manner, which ever made his presence welcome. Mr. President, I have known our departed friend for twenty years, and I have ever known him as an earnest, methodical student, a painstaking, conscientious practitioner, and an honorable colleague. He was all that is implied in these words, "A scientific physician and a Christian gentlemen."

Bereft of the presence of our associate, we have yet remaining the pleasant assurance that so long as memory endures, we can never forget the example he has set for us, of faithful work and honorable conduct.

DR. ISAAC RAY, well and widely known as a writer on the treatment of insane patients, died March 31, at his residence in this city, in the 74th year of his age. He was born in Beverly, Maine, and graduated at Bowdoin College in 1827, and studied medicine with Dr. Shattuck, in Boston. He practiced for some time in Portland and Eastport, and then took charge of the Insane Asylum at Augusta. Subsequently he was in charge of the Butler Hospital at Providence, and came to Philadelphia in 1867, since which time he has been engaged as a consulting physician. In July, 1880, he was elected an honorary member of the Medico-Psychological Association of London, and received the diploma a few weeks since. He had been in ill health for twenty-five years previous to his death. He was elected a fellow of the College of Physicians of Philadelphia in 1868.

Dr. Ray was a voluminous writer on medical subjects, and included in his works will be found: "Conversations on Animal Economy," 1829; a treatise on the "Medical Jurisprudence of Insanity," 1838, a work termed by Mr. Cockburn, Attorney-

General of England, as "perhaps the most scientific treatise that the age had produced on the subject of insanity in relation to jurisprudence;" "Homicide—Epilepsy," 1867, a review of the case of G. W. Winnemore, executed for murder at Philadelphia, August 29, 1867. He also contributed papers to the *North American Review*, *American Quarterly Review*, *Christian Examiner*, *American Jurist*, *Law Reporter*, *Boston Medical Magazine*, *American Journal of Insanity*, and the *Atlantic Monthly*. The eleventh edition of his "Medical Jurisprudence" was published in this city in 1860.—*Philadelphia Medical and Surgical Reporter.*

OBITUARY.—Died at Washington, on the 23d of February, aged fifty years, George Alexander Otis, M.D., Surgeon U. S. A. Dr. Otis, who is widely known as an eminent writer on military surgery, and as the compiler of the surgical volumes of the Medical and Surgical History of the War, was born at Boston, Massachusetts, November 12, 1830; he graduated in the Arts at Princeton College, and in Medicine at the University of Pennsylvania, in 1850. He then visited Europe and prosecuted his studies in London and Paris, and, returning to this country, he began the practice of his profession at Springfield, Massachusetts. He entered the army as surgeon of the 27th Massachusetts' Volunteers, in September, 1861, and after the close of the war, he entered the medical corps of the regular army.—*Medical News*, April.

Items.

THE ILLINOIS STATE MEDICAL SOCIETY.—The thirty-first annual meeting of the Illinois State Medical Society will be held in Chicago, in the hall of the Methodist Church Block, beginning at 10 a. m., on Tuesday, May 17.

The officers for the year are:

President, Geo. Wheeler Jones, M.D., Danville; First Vice-President, Wm. Hill, M.D., Bloomington; Second Vice-President, G. W. Nesbitt, M.D., Sycamore; Treasurer, J. H. Hollister, M.D., Chicago; Permanent Secretary, S. J. Jones, M.D., Chicago; Assistant Secretary, W. T. Montgomery, M.D., Chicago.

Committee of Arrangements: Dr. J. N. Hyde, Chairman, Chicago; Drs. N. Bridge, R. Park, E. F. Ingals, P. S. Hayes, Chicago.

The Standing Committees that are expected to report are—

Committee on Practical Medicine: E. P. Cook, Mendota; W. West, Belleville; G. W. Nesbitt, Sycamore.

Committee on Surgery: Chas. T. Parkes, Chicago; Wm. A. Byrd, Quincy; D. S. Booth, Sparta.

Committee on Obstetrics: H. Webster Jones, Chicago; W. S. Caldwell, Freeport; C. T. Reber, Shelbyville.

Committee on Gynæcology: J. W. Dora, Mattoon; Ellen A. Ingersoll, Canton; B. F. Crummer, Warren.

Committee on Ophthalmology and Otology: F. C. Hotz, Chicago; J. P. Johnson, Peoria.

Committee on Drugs and Medicines: Frank H. Davis, Chicago; W. C. Pipino, Quincy; W. G. Cochran, Farmer City.

Committee on Necrology: T. F. Worrell, Bloomington; G. W. Albin, Neoga; E. Ingals, Chicago.

Committee on State Register: E. P. Cook, Mendota; F. L. Matthews, Springfield; D. S. Booth, Sparta.

The Special Committees appointed to report are—

Dermatology and Syphilis: W. J. Maynard, Chicago.

Laryngeal Tumors: E. F. Ingals, Chicago.

Abnormal Thermal Conditions in Diseases and the Means of Controlling them: J. H. Hollister, Chicago.

Results in Fractures: C. C. Hunt, Dixon.

Volunteer papers will be presented by—

1. Permanent Removal of Hair by Electrolysis: By Plym. S. Hayes, M.D., of Chicago.

2. On the Present Status of Specialism in Medicine: By A. Reeves Jackson, M.D., of Chicago.

3. On the Surgical Anatomy of the Sheaths of the Tendons in the Palm of the Hand: By Roswell Park, M.D., of Chicago.

4. On Ringworm of the Scalp: By Wm. J. Maynard, M.D., of Chicago.

CHICAGO MEDICAL COLLEGE (MEDICAL DEPARTMENT OF THE NORTHWESTERN UNIVERSITY).—The annual commencement exercises of this institution were held on Tuesday, March 29, 1881, in Central Music Hall, Prof. Davis, Dean of the Faculty, presiding. The candidates for graduation occupied the front seats of the auditorium; next were the undergraduates of the medical classes, with many members of the classes in the College of Law and the College of Liberal Arts, while the rest of the large hall was crowded with citizens. On the platform, the Dean was accompanied by his colleagues of the medical faculty; Oliver Marcy, LL.D., Acting President of the University, most of the professors in the Colleges of Law and of Liberal Arts, and members of the Executive Committee of the Board of Trustees.

The exercises were opened with prayer by Prof. F. W. Fisk, of Chicago. Prof. W. E. Quine, Secretary of the Faculty, then read his report, which stated that the twenty-second annual session of the college had been characterized by a degree of success in every department, which had been gratifying to the faculty and creditable to the students. During the session of twenty-six weeks, or six full months, clinical instruction had

been given daily to full classes in the Mercy Hospital and College, and to small classes for individual training in the dispensary, and practical lessons in anatomy, chemistry, and microscopy in the several laboratories, which, with the didactic lectures and demonstrations in the several branches, make an aggregate of 2,688 lessons and lectures of one hour each. The amount and variety of instruction thus given, both practical and scientific, and its methodical arrangement, were claimed to be equal, if not superior, to that given in any other medical college in this country. The supply of anatomical material and other means of illustration had been ample, and the clinical resources more than could be utilized. Forty-one advanced students had received special certificates for satisfactory service in surgical dressing, and twenty-seven students received certificates for service as clinical assistants in the dispensary. The whole number of persons entered upon the college register and receiving instruction during the college year was 191. At the commencement of the present college year, as in each of the preceding years since the autumn of 1876, several of those who applied for admission were refused from inability to comply with the requirements in regard to general education. In the regular examinations of classes, twenty per cent. of the freshmen, or first year students, failed to reach the junior or second year class; and twenty per cent. of the juniors failed to qualify fully for entering the senior class. Some of these will make up their deficiencies during the summer vacation and retain their class standing, but about thirty per cent. of the whole number fail to obtain the desired diploma. According to this report, the medical faculty of the university aims to pay strict attention to the *proficiency* of its graduates rather than to their number. The Dean, Prof. N. S. Davis, then conferred the degree of Doctor of Medicine upon those members of the senior class who had been recommended by the faculty for that purpose, accompanying the delivery of the diplomas by a brief and impressive charge concerning the nature of the duties and responsibilities they were about to assume.

E. W. Andrews, of the graduating class, responded in a feeling manner, alluding to the close association that existed between professor and student in the pursuit of medical knowledge, and

paying a regretful farewell to the dean and faculty in behalf of the class.

The following is the list of graduates:

E. W. Andrews, J. H. Bacon, R. T. Bailey, A. E. Baldwin, J. H. Bates, E. D. Bergeron, Frank Billings, A. T. Blackburn, G. C. Blish, A. H. Burr, C. E. Cook, W. G. Cook, D. C. Davies, W. L. Dayton, J. O. Everett, M. L. Felkner, J. A. Fordyce, W. S. Gates, D. A. Hadley, H. B. Hemenway, B. U. Jacob, F. S. Johnson, J. L. Williamson, E. A. Kegley, A. T. King, W. J. Latta, P. A. Letourneau, Richard Melms, F. T. Nye, A. E. Okey, J. L. Priestman, M. Z. Putnam, E. B. Righter, George Rivard, H. O. Rockwell, J. F. Rood, Fernando Roys, J. D. Simpson, F. A. Snyder, Heman Spaulding, J. H. Stowell, D. H. Sullivan, De W. Townsend, O. M. Vaughan, M. H. West.

Dr. H. A. Kelso received an honorary degree.

Dr. E. C. Helm, Dr. J. J. Larkin, and Dr. L. T. Potter, received special diplomas for one year each of post graduate service in the hospital.

Prizes were conferred for the best thesis, on J. L. Williamson, of Milwaukee, and H. B. Hemenway. The anatomical prizes were received by W. Porter and G. A. Wells, Prof. Rea making the presentation with a humorous and poetical speech. The Dr. Edwards prize was taken by W. E. Morgan, and that of Dr. Senn, of Milwaukee, by A. M. Vail, of Kansas. J. H. Bates also received a prize offered by Prof. Jenks for the best essay on a gynæcological subject. The chemistry prizes were awarded to W. A. Mann, M. D. Burbank and G. B. Eaton.

The valedictory address was delivered by Dr. Hollister, who spoke of the inherent feebleness of man, but he was possessed of perception, reason and judgment, which were perpetual food for thought. The experience of 6,000 years told of the mountains that were in the path of knowledge. He spoke of the achievements of medical science in the last century as being greater than ever before in the world's history. A medical knowledge could not be measured to-day by that of twenty-years ago; it now demands preliminary education and great culture. The Chicago Medical College had been organized to test the graded

system, and its success proved the efficiency of the new plan. Seven of its professors were its own graduates, and the institution was out of debt. He then spoke of the fact that other colleges were adopting the graded system, and read letters from China and Japan, which said the American system had been adopted in distant lands with official sanction. Applications for admission here had been received from Russia and Australia. He congratulated the graduating class, for the Faculty, and trusted they would take up their life-work, and always acquit themselves like men.

The exercises were interspersed with music, and the young men of the graduating class received many beautiful floral tributes.

The fifteenth annual reunion and banquet of the Alumni Association of the College was held Tuesday evening, March 29, at the Tremont house. The graduates, including the class whose graduating exercises were held during the afternoon, gathered to the number of about 150 in the club-rooms, where a preliminary reunion and business meeting was held. An address of welcome was delivered by Dr. R. Park, in which he stated that a departure had been made from previous years, as the banquet was this year tendered by the Faculty to the Alumni.

Dr. F. E. Waxham read the necrological report, and the President, Dr. W. E. Quine, read his annual address. The election of officers resulted, on the report of a committee on nominations, as follows: President, D. A. K. Steele, '73; Vice-Presidents, Frank Kimball, '80, and Frank Billings, '81; Secretary and Treasurer, C. W. Earle, '70; Necrologist, F. E. Waxham, '78. Letters were read from absentees, and a social reunion followed. At about 10 o'clock the old and young doctors adjourned to the dining hall, where an excellent dinner was served. After the dinner had been discussed at length the speaking began, the prescribed toasts being as follows: "Welcome," responded to by Prof. N. S. Davis; "The Old Boy," Dr. J. E. Link, of '62; "Reminiscences of a 10-year-old Graduate," C. W. Earle, of '70; "The Badger as a Practitioner," Clark Gapen, of '75; "The Last Cathartic," J. A.

Fordyce, of '81. The responses were full of medical witticisms, and were followed by impromptu toasts, responses, songs and anecdotes, which occupied the time until an early hour in the morning.

THE TREATMENT OF PYROSIS OR WATER BRASH.—M. Ory gives, in *La France Médicale*, the following formulæ, which may be usefully prescribed to complete the rational treatment by proper regimen, milk and vegetable diet, and alkaline drinks.

Jeannel advises a tablespoonful, from two to four times a day, of the following mixture:

℞. Rhei pulv .....ʒ iiss
Sodii bicarbonat.....gr. xxx
Syrupi.....fʒ iiss
Aquæ menthæ viridis.....fʒ viiss. M.

Each tablespoonful represents about seven and a half grains of rhubarb.

In the Pharmaceutical Formulary of London is the following mixture of chalk:

℞. Cretæ præparatæ,
Sacchari albi.....each ʒ ss
Acaciæ pulv.....ʒ ij. M.

Or the compound chalk powder—

℞. Cretæ præparatæ.....ʒ iij
Canellæ pulv.....ʒ ij.
Tormentill. radicis pulv.,
Acaciæ pulv .....each ʒ iss
Piperis longi pulv.....gr. xv. M.
Dose, fifteen to thirty grains.

This powder, according to Bouchut, is also of service in cases of chronic diarrhœa.

The following powder has also been prescribed with success:

℞. Magnesiæ,
Sacchari pulv.....each ʒ ij
Bismuthi subnitrat.....gr xv
Sodii bicarbonat.....gr.xxv. M.
Divid. in chart. x.
Take one powder at the beginning of each of the two principal meals.

Franck has advised the following:

℞. Magnesii carbonat.....gr.xxx
Rhei pulv.,
Canellæ pulv.....each gr.viiss. M.
Take in two doses.

M. Ory also recalls the composition of Warner's Cordial Liquor:

℞. Rhei pulv.....℥ iss
Sennæ pulv.....℥ j
Croci pulv.....gr xv
Glycyrrhiz. pulv.....℥ j
Uvar. passar .....℥ iij
Alcoholis (21°).....f.℥ xij. M.
Digest for fifteen days and filter.
Administer a teaspoonful morning and evening, a short time before each meal.

M. Bouchardat suggests the following in the treatment of this affection:

℞. Rhei pulv.,
Magnes. calcinat. pulv.....each gr.xxv
Opii pulv.....gr.ss.
Divid. in chart. v.
Dose, one each day, before the principal meal.

STATISTICS OF MEDICAL JOURNALS.—On the authority of Mr. Durean, one of the librarians of the Académie de Médecine, the present number of medical periodicals for France and its colonies is one hundred and forty-seven, ninety-five of these being published in Paris, and fifty-two in the departments. The German empire publishes one hundred and thirty-three journals, Great Britain and Ireland sixty-nine, Austria fifty-four, Italy fifty-one, Belgium twenty-eight, Spain twenty-six, Russia twenty-six, Holland sixteen, Switzerland ten, Sweden and Norway nine, Denmark five, Portugal four, the Danish Principalities four, Turkey two, Greece one; the total for Europe being five hundred and eighty-three. In America there are one hundred and eighty-three journals, in Asia fifteen, in Oceanica four; the total for the various continents being seven hundred and eighty-five. The number of medical journals created since 1679 exceeds two thousand, five hundred.—*Lyon Médical.*

WONDERFUL MATERNAL IMPRESSION, IF TRUE.—Dr. Frank M. Ramsey, of Knoxville, Tennessee, writes to the Nashville *Journal of Medicine and Surgery*, April, 1881:

"Maternal impression once admitted, as I think it should be if records are properly made, I believe the fact will be established that at any period during gestation a mother may be impressed so as to leave an evidence on the embryo or fœtus.

"A negro woman, belonging to my own household, was in the seventh, perhaps eighth month of gestation, when she was thrown from a horse and fell in soft mud, except one leg in its lower third, across a hay-rod, or sapling used to bind hay on a wagon. Twenty-four hours afterward she aborted. The child had a well-defined ecchymosis on its leg, corresponding with the leg of the mother which struck the hay-rod, and the leg of the child was broken, though no mark, even, was made on the leg of the mother. This occurring under my own observation is sufficient to cause me to disbelieve that any particular time of gestation is more favorable to cause responsive effect on the embryo and fœtus than another."

AMERICAN GRADUATES IN MEDICINE IN 1881.—Jefferson Medical College (Phila.), 205; University of the City of New York 191; Rush Medical College (Chicago), 172; University of Nashville and Vanderbilt University, 168; College of Physicians and Surgeons (Baltimore), 154; Bellevue Hospital Medical College (N. Y.), 117; University of Pennsylvania, 110; Medical College of Ohio (Cincinnati), 103; University of Louisville, 100; Indiana Medical College (Indianapolis), 85; University of Maryland, 73; Louisville Medical College, 54; Nashville Medical College, 53; University of Buffalo, 48; Chicago Medical College, 45; Miami Medical College (Cincinnati), 34; Cincinnati College of Medicine and Surgery, 30; Michigan College of Medicine (Detroit), 28; Hospital College of Medicine (Louisville), 24; Woman's Medical College (Chicago), 17.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, May 2 and 16.
West Chicago Medical Society—Mondays, May 9 and 23.
Biological Society—Wednesday, May 4.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLII.—JUNE, 1881.—No. 6.

Original Lectures.

ARTICLE I.

INAUGURAL ADDRESS AT THE OPENING OF THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY, OCTOBER 1, 1880. By M. PUTNAM JACOBI, M.D., Professor of Therapeutics.

LADIES—It is a good plan, on the threshold of any important enterprise, to pause and take a survey of the field we propose to traverse; otherwise we may lose our way, and arrive at the wrong goal at last.

Every enterprise involves difficulties. Difficulties are inseparable from any condition of existence. The question therefore always is, not "Are there any difficulties to encounter?" but "For precisely what difficulties must I prepare?" The difficulties involved in the study and practice of medicine are intrinsic and extrinsic; and we will consider each in its order.

In addition it will be profitable to inquire what especial difficulties attend the study of medicine by women; and, finally, to point out some which we have practically encountered in the working of this school.

The first intrinsic difficulty in medicine consists in the great mass of facts which it is necessary to know, and in the variety of

sciences which must be understood in order to interpret these facts. There is a general impression among non-medical people that all medicine can be learned simply by listening to what sick people have to say for themselves; that any one who has listened during a few months or years to such conversations knows all about medicine—is rich in experience; that what such an one does not know is not worth knowing. Now, in reality, such a method would not suffice to teach the pathology of a cold in the head, although a thousand sufferers related the details of their illness with the utmost loquacity. At the very outset of clinical study it is well to be impressed with this fact: namely, that what the patient has to tell you constitutes precisely the least important part of what you must learn about him in order to be able to understand his case, and to do him any good. This is not only true in regard to children, to insane people, to those who are for the time delirious or unconscious, or to those whose willful exaggerations or reticences evidently distort the description of their symptoms. It is true of every one who does not understand the pathological significance of one symptom as compared with that of another: true, therefore, of every one who is not himself a physician. Let us take an individual case—it makes scarcely any difference what. As serving to illustrate many points, I will select a case of fractured skull. The physician is summoned in haste, and learns that an hour previously the patient had fallen from a scaffolding to the street; had been picked up unconscious, and brought home in the same state; that shortly after reaching home he had vomited, but had not, as the saying is, yet come to himself. The physician finds the patient in bed, motionless and insensible. His eyes are closed, but if the lids be raised the pupils will be found to contract, perhaps sluggishly, to the light, and the lids quiver more or less if the conjunctiva is tickled. The breathing is slow and rather labored, and at each respiration the cheeks puff out as if the man were forcibly smoking a pipe. Perhaps from time to time one of the arms is raised and moved convulsively backwards and forwards, then falls again. The face is pale, but when the doctor lays his finger on the pulse he finds no sign of exhaustion; the pulse is full and hard, and rather slow. He will notice that the clothes are wet with urine.

In examining the head he finds on one side, near the vertex, that the hair is matted; and, separating the mass, he comes upon some clotted blood. He presses his finger in the center of the clot, and may find a depression below the level of the cranium. Perhaps when he presses on this depressed portion the convulsive motion of the arm will re-commence. On searching farther, he may notice a clear fluid running from the ear, on the same side with the visible fracture. Here is his case. Now, for the sake of simplicity, I have so stated it that, in regard to the main fact, the doctor is not called upon to make any diagnosis. There is no doubt about it; the man has fallen and fractured his skull. But, before the physician can understand either the extent or the consequence of this injury, he must be extremely familiar with the anatomy of the injured region. He cannot learn this anatomy from looking at the patient, nor at a hundred similar patients. He must have had the opportunity on many dead ones to dissect out all the parts, and study repeatedly their relations to each other. Then only could he know, in the first place, even that there was a brain inside the skull! Further, that the piece of bone which had been driven in by the blow had probably torn the membranes covering the brain, and even the pulpy substance of this vital organ itself. He must remember the sinuses in the membranes, and the effusion of blood that poured out from them was probably now pressing on the surface of the brain. He must be able to tell, in order to furnish the basis for his physiological analysis of the case, just what part of the surface had been injured—the part whose irritation is known to cause convulsive movements of the right arm. He must be able, from his previous knowledge, to trace downwards the direction of an invisible crack, leading from the visible fracture to the base of the skull, and splitting another portion in such a way as to allow of the escape of the clear liquid from the ear. All this knowledge, and that of other details which I omit, must the physician bring to the case from the study of the first science on which medicine reposes—the science of anatomy. He then begins to trace the relation between the symptoms he has observed and the lesion he has discovered, by means of his knowledge of the functions of the parts involved—in other words, by his

knowledge of physiology. By a violent shock the functions of important organs have been rudely interrupted. The physician who was not already well acquainted with these functions would be entirely unable to explain why a blow on the head should suspend or alter them. He could not even see any reason for the suspension of consciousness, of feeling, of power of movement, which has been induced by this blow. Still less could he understand the vomiting, the involuntary emission of urine, the convulsive movements of the arm, the puffing of the cheeks, the changes in the respiration and the pulse. In other words, unless he had an intimate acquaintance with the working of the machinery of the body while in order, he would be as little able to understand its disorder as a bricklayer to know why a watch had stopped, or a shoeblack to mend a locomotive. But the analysis of the case is not finished. The fall of a living body from a height is an event not contemplated in the physiological workings of the organism. It is effected according to physical laws, and the fracture of the skull takes place in the same way, and with the same modifications as would a fracture of any inorganic elastic globe. The radiation of the fracture, the effect of the rebound of the head from the pavement, and of the brain within the skull, cannot be studied by the aid of anatomy or of physiology alone; a third science must be invoked—that of physics. Nor is this all. I have spoken of the clear fluid running from the patient's ear. To the uninitiated this would seem to be of much less importance than the blood which matted his hair. But the physician sees in it a symptom of very serious import; he knows that it is a sign of the fracture of a certain portion of the base of the skull, and foretells almost certain death. So much he knows, or should know, as a fact of clinical experience—that is, of the clinical experience of other people; for he ought to be able to interpret this symptom as perfectly in the first case he ever saw as in the fiftieth. To understand exactly what this clear fluid is, he must, however, interrogate something else than clinical experience, for that has interpreted the matter in several different ways. The question has been solved by clinical analysis of the fluid, which has shown that it does not resemble the serum of the blood, which at one time it was supposed

to be, but the so-called cerebro-spinal fluid, which bathes the brain and spinal cord, and which cannot be removed, in even small quantities, without the greatest risk to these vital organs. The gravest feature in a case of fracture of the skull is interpreted by means of the science of chemistry.

Here, then, are four separate sciences, with entirely distinct methods, with which the physician must be to a considerable extent acquainted before he can in the least understand the condition of the patient in the case we have imagined: anatomy, or the science describing the form and relative situation of organs; physiology, or the science of the functions of these organs; physics, or the science of the movements of masses; chemistry, or the science of the composition of bodies, including the solids and fluids of the animal organism. When all these have been applied to the problem, the physician is still at the outset of his investigation. It is not enough that he sees, or even correctly understands, the condition in which the patient is; he must be able to foretell the series of changes which this condition is likely to undergo, during its progress towards death or recovery. To do this he must be acquainted with a fifth science—pathology; a science laboriously elaborated from all the experience, the observations, the clinical and post-mortem analyses which have been accumulated during the historical period of the race. Morbid anatomy is properly a branch of pathology, and nothing can be more absurd than the idea that the clinician can busy himself with the sick person during life, and leave to a specialist in "pathological anatomy" the examination of diseased organs after death. You can only properly observe the living sick man when you are able, in imagination, to pierce through the outer coverings of his body, and watch, step by step, the morbid processes which are creeping onward in the recesses of the organism. For this purpose it is essential that a science, really a branch of anatomy, but often regarded as distinct, be assiduously cultivated. I mean the science of histology. It is only when the microscopic structure of the fractured bones and torn membranes is perfectly known that the physician can understand many of the minuter morbid processes whose possibility he foresees—as an osteomyelitis, a meningitis, a capillary apoplexy. Knowing what

exists, and also what is likely to occur, the physician is now prepared to intervene to help the patient, and to avert danger as far as this may be possible. In other words, having applied the arts of diagnosis and prognosis, in accordance with the laws of pathology, he is able to apply the art of therapeutics according to the indications furnished, on the one hand by surgery, on the other by the science of the properties of drugs. He will lift up the depressed fragment of bone by means of a trepan; he will apply ice to the head, to keep down hyperæmia of the meninges; he may possibly give bromide of potassium to deaden the activity of the brain when consciousness returns and delirium is imminent.

From this single illustration, you may at once learn several peculiarities of the physician's work. In the first place you have noticed that the knowledge required is not merely considerable in amount but various in kind, and that all these varieties must be co-ordinated into a single conception, which we may entitle knowledge of the condition of the patient. In every step of the physician's career he is obliged to perform this work of co-ordination; obliged not only to know in detail, but to generalize and combine.

Now the capacity for systematic mental combination is essentially a cultured capacity, and a capacity whose effective attainment is a matter of a great deal of difficulty. It is sometimes proposed to evade this difficulty by dividing up medicine into a great number of small sections or specialties, and encouraging every one to devote himself to only one. Even were this done, the difficulty in question would not be removed, but only pushed back a little. Even when a physician professes to attend only to the diseases of a single organ, he still has to do not with one disease but with an entire class of diseases. To decide whether one of *his* diseases exists, he must know enough about a good many others to be able to exclude them from the diagnosis. Or, if he cannot do this, he must get some one else to make the diagnosis for him—that is, to take out of his hands the first large part of his own work. If we suppose these preliminary questions all decided,—and no doubt to remain that disease exists in the organ appropriated by this particular specialist—we still can only understand this by means of a mass of anatomical, physiological and

clinical details, out of which he must build up the general conception of the case. Thus the mental operation is the same in kind for the specialist as for the general practitioner.

Specialists are needed for original researches, and to develop the field of medicine in such a way that it may afterward be cultivated by the general practitioner. Auscultation was once a specialty, and only a few physicians even pretended to know how to use the stethoscope. But to-day, as you are aware, scarcely any one claiming the name of physician would dare to disclaim his ability to do so.

It will always be desirable moreover, that certain persons endeavor to acquire unusual skill in some particular directions, that they may be called upon occasionally to decide in questions of unusual difficulty. But it must be left to the general practitioner to call in the specialist, as the judge calls an expert into court, to assist in making up the decision. The responsibility of the decision must always rest with the judge, or the physician,—after they have heard all that the experts have to say, and controlled their report by means of their own knowledge of the subject, and general relations of its parts to each other.

There is another way in which a specialist may be called in: namely, like a chiropodist to attend to some entirely subordinate and presumably insignificant detail. Whoever adopts a specialty for the sake of narrowing his knowledge, and not in order to deepen it, is liable to become a specialist of this kind—a mere corn doctor; with no valid claim to membership in a liberal profession.

We return therefore to our assertion that it is impossible for a real physician to escape the necessity of constantly dealing with multiple groups of facts. He cannot therefore be dispensed from the necessity of acquiring the mental culture which alone can enable him to accomplish this task. To further illustrate my meaning, I would point out that there are four successive degrees of generalization that may or must be effected by the physician. The first degree is that which I have already shown to be involved in the very simplest diagnosis of disease in a single organ of the body. In a second degree of complexity the physician is obliged to consider also the co-existence of a morbid condition in some

organ, and to ascertain which, if any, are the relations between these two. Thus, if the same patient be suffering from dyspepsia and endometritis, it is very important to know whether the dyspeptic symptoms result from the irritation of the endometritis, or whether the endometritis is the final expression of a state of denutrition originated by the dyspepsia. If, again, a pregnancy complicates the uterine disease, the question of treatment is rendered more difficult by the risks of interfering with the pregnancy.

In a third degree of generalization, the physician must rise to considerations of the pathogeny of disease, and these are inseparable from general philosophic notions to enable him to grasp the theory of the matter. Thus, in investigating a case of phthisis, the physician will go but a little way who rests with the report of subcrepitant râles at the apex of one of the lungs. It is imperative that he understand the theory of phthisis, and the relations between the theory of Bayle and Laennec, which would attribute these râles to ruptured tubercle; the theory of Rindfleisch, which would explain them by the breaking down of masses of tissue chronically inflamed; the theory of Bull, explaining the ulceration process by a diphtheritic-like infiltration. Immediately or remotely, the practical treatment of phthisis is moulded by the theory which may have been adopted.

Similarly, the practical treatment of uterine diseases must vary considerably when the theory of menstruation regards this process as a congestion, or as a plastic process of growth.

The highest degree of generalization is that involved in the pursuit of original researches. Upon this we will not now stop to speak.

Now, as I have already said, the capacity for generalizing is essentially a cultured, an acquired capacity. Whenever it seems to be natural, that is, to come without any special training, it is always wrong. That is to say, untrained persons of active minds, and who are often very ready to generalize, invariably do so from too small a number of facts or data. Hence their conclusions are inadequate or absurd. Homœopathy furnishes an excellent illustration of just this kind of generalization. It has picked up a superficial resemblance between things; has refused to analyze further the real relations of these things, and then

insists upon having discovered the true theory of their relations. Thus Hahnemann gives as an illustration of the way in which natural instinct appeals to the law of Similia: the case of a cook who, having burned her finger, plunges it into warm water; or, the boy whose fingers are frost-bitten, yet who takes care to rub them with snow. Now this accidental resemblance between the cause of the injury and the treatment explains nothing. A little deeper examination shows that, in the first case, the warm water is required to relax the distended blood vessels; in the second, the cold is needed to restore the circulation gradually and not with a rush, which might prove fatal to the tissues. In these celebrated examples, an immense fallacy is accepted, by omission of the philosophical distinction between two kinds of causes: the efficient cause, the burn, which has initiated a train of morbid processes; and the proximate cause, that is, the anatomical and physiological conditions upon which the symptoms immediately depend.

To train the mind to handle large masses of facts, it must be gradually accustomed to work with somewhat smaller masses of more accessible facts. This is the reason for that general literary education which, in all European schools, is exacted as an indispensable preliminary to medical study, and which, in this country, is often considered as superfluous. But it can only be so considered by those who have never tried to analyze the mental operations involved in the simplest medical work.

Our illustrative case shows that something else is necessary also. The senses must be trained as well as the mind. I will not now dwell upon the methods for training the senses, but only point out two facts. First, that the facility and accuracy with which the senses work, is largely in proportion to the amount of mental training that guides their operation. You can see, hear and feel a hundred fold more when you know beforehand exactly what is to be felt, or heard, or seen; and when you have an ideal standard with which you can compare the results furnished by your eye, ear, or finger. In the second place, it is logical and much easier to train the senses by means of simple exercises before attempting more complex ones. Thus an excellent pre-

paration for learning how to observe in anatomy, is to pursue observations in botany.

It is now worth while to inquire, since the study of medicine is so vast, what proportion of it can possibly be mastered during a given term of years: in other words, what we may expect a student to know who presents himself for graduation. As the foundation of everything, a really complete knowledge of anatomy is indispensable. It will not do to know that an artery is, as the boy said of Abraham, "there or thereabouts." It will not do to have a general idea that the nerve centers are divisible into a cerebrum or cerebellum, medulla and spinal cord. The anatomical knowledge that is not precise and accurate is as unavailable for the physician as would be a general idea of the county in which a person lived, to the postman charged to deliver a letter to him.

There is another reason for demanding completeness of knowledge in regard to coarse and fine anatomy, and that is, that it is so readily forgotten in after practical life, and requires to be so constantly revived by fresh reference as wanted. Students are apt to think that therefore it never need be fully known at any time. This is a great mistake. What has once been firmly stamped upon the mind, can easily be revived; what has always been vague, will always remain so, unless there take place such a radical change in mental habits and methods as we have no great reason to expect. The science of chemistry, so far as regards its relations to medicine, should also be perfectly known at the outset, and can be known because these medical relations of chemistry are at present comparatively so few. Physiology, on the other hand, embraces a much wider field—more indefinite and more complex details. The knowledge acquired of it during a medical curriculum, must be small as compared with the relative amount attainable in anatomy and medical chemistry. But absolutely, this amount is considerable. It is of the greatest importance that the student learn to distinguish the different degrees of certainty which exist between the various physiological doctrines he hears enunciated. It is in studying them that he is first introduced to the peculiar difficulties of the study of medicine, inherent in its imperfection, in its complexity, and in its pro-

gressive character. It is impossible to study physiology by the memory alone. Even to remember its details requires a habit of mental poise—a capacity for criticism and judgment which is only acquired by very careful training. In testing the candidate therefore, we expect to find, not a complete knowledge of physiology, but an *accurate* knowledge of certain fundamental facts, familiarity with accepted methods for both the acquisition and application of physiological knowledge, and some trained judgment in regard to the grouping of facts known; finally, sound and vivid perceptions of the relations of physiology to medicine, and of their constant interdependence upon one another.

Coming now to medicine proper—what may we expect a graduating student to know? It is a mass of knowledge so vast (often *so confused*), so unsystematically grouped together—so largely empirical,—so unequal in its development; its acquisition depends so much upon prolonged clinical experience with personal responsibility, that it is really very difficult to define just how much may be acquired; how much and what must be expected of any one after a given course of study. We can, however, say this: First—That the graduate must be thoroughly acquainted with the rules of diagnosis, and show his ability to apply them in any given case. Second—That he must be acquainted with the typical outline of all classical diseases, and thus know the symptoms upon which the diagnosis is based. Then there will be nothing to prevent him from diagnosticating even the very first case he ever sees of even the rarest disease. Whoever is able to do this; whoever has reached a stand-point from which he can scan the entire horizon of medicine, has reached a beginning whence nothing need prevent indefinite progress. But unless this beginning be reached, the physician is really incapable of making the first decision about any one who comes to his office, or who calls him to their bedside. A doctor who did not know that coryza was one of the symptoms of syphilis, could not safely pronounce with positiveness upon the nature of an apparent cold in the head. Another, who knew of no eruptive fever but measles, would certainly be incompetent to decide that the rash in a given case were not scarlatina or small-pox. No young physician can be expected to know all about all diseases; but he must be acquainted with at

least the existence of all that there is to know about. And he must, moreover have attained sufficient mental breadth and grasp to be able to keep the recollection of all firmly and clearly before his mind at the same time. Now this knowledge is really quite attainable by a curriculum of three or four years duration, if the study be sytematically and intelligibly pursued.

The art of therapeutics is much more difficult of acquisition. The treatment of a disease involves many more considerations than even does its diagnosis; and these are susceptible of much greater variety in grouping. Surgical therapeutics, or, as you would perhaps call it, operative surgery, is much the simplest, and, accordingly, is much farther advanced. The logical method would prescribe that before studying the effect of drugs internally administered, the pupil should be carefully trained to watch the effect of the topical applications, the various manœuvers and operations, by which a surgeon deals with cases of external pathology. The question that meets us at the outset is, Is it really possible for us to produce any definite effect upon the processes of a living organism? This question is at present better answered in surgery than in the domain of internal medicine; and we should therefore seek for the answer first there. Yet so easily are we deluded into believing that whatever is familiar is simple, and whatever is unfamiliar is abstruse, that I suppose there is not one of you who would not believe that the action of a dose of castor oil was much easier to understand than the action of a fracture splint; or, again, that any woman physician might be expected, in virtue of her sex, to know something of pessaries, but need not be expected to know anything of orthopœdics, although a pessary for the replacement of a dislocated uterus is strictly a surgical and, by analogy, at least, an orthopœdic apparatus. What we may expect of a student at graduation is, to know the precise physiological action of drugs so far as this is known at present; to know the principal variations in such action occasioned by disease; to know the principal indications for the use of the drugs; and, finally, the principal diseases in the course of which these indications present themselves. It is unnecessary to add that he must know the doses and preparations of these same medicines.

To apply my previous test, I would say that the theoretical possession of this amount of knowledge is quite attainable in three or four years. The practical availability of it, is attainable with such slowness and difficulty, that it would really be desirable to pass a law forbidding any young physician from assuming the full responsibility of prescribing until, for a year, privately or in hospitals, he had practiced under the close supervision of some one else.

The work of co-ordinating multiple facts, which I have said was the characteristic work of the physician, must be begun by the student in his most elementary attempts at mastering knowledge. This is the only way in which he can remember the immense amount of facts he is expected to know. He must bind them firmly into a single bundle, or a definite number of single bundles, or they will all fall apart like scattered sticks.

Every time you learn anything new, you should stop and ask yourselves whether you know everything which is implied in that knowledge. In studying the anatomy of muscles, you have an opportunity of reviving your knowledge of the bones on which they are inserted. In studying the course of arteries and the distribution of nerves you refresh your recollection of the muscles which serve as landmarks to them. In observing any case of disease in the college clinics, it should be your self-imposed duty to ask yourselves if you know all about the anatomy, histology, and physiology of the organs involved in the disease. The constant, faithful, patient repetition of these inquiries would continually render the co-ordination of your various studies more and more easy to you; would train you in the capacity, invaluable in a physician, of bringing to bear all your knowledge at any given point, and of turning it to account wherever it was wanted. For here is the immense peculiarity of medical knowledge—it must all be turned to account. It is tremendously, often terrifically, responsible. It is this sense of responsibility which should be constantly impelling the medical student to a determination to *grasp* a subject, instead of remaining content to wabble about in it. Medical knowledge is not something which can be purchased and applied to a patient like a plaster or a poultice; it is something to be handled—like a tool, like an ax—and the effective-

ness of the handling depends upon the firmness of grip of him who holds the instrument. This fact involves a double responsibility on the part of the teacher. It is not sufficient to expound doctrines and convey information; it is essential to train the minds of the persons who are expected to profit by it. This requires systematic intellectual gymnastics; requires repeated practice in all the mental operations which, in after life, the student will ever be called upon to perform. Thus he must be taught, he must probably be compelled, not only to remember approximately, but accurately; not only to be able to think when at leisure and unencumbered, but under strong pressure, and perhaps in the midst of the most embarrassing circumstances; to express himself, not only in a slovenly, awkward, halting manner, calculated to make nervous people impatient, and timid people alarmed, and arrogant people contemptuous, but in such a clear, concise, forcible way as shall always compel attention and extort respect from the very midst of hostile criticism. The physician, like the soldier, must be trained to act under fire; and a training for mere holiday manœuvers, out of sight of the enemy, is lamentably insufficient for the purpose. Human minds are not pint-pots, into which we may pour water or milk or wine at our option; nor are they often Danaides, which may be quickened simply by immersion in a golden rain from heaven. They are living organisms which can only use what they have assimilated and digested, and wrought into the texture of their inmost fibers.

This vigorous assimilation demands qualities of grit, which are as much moral as intellectual. Many moral qualities are needed in the practice of medicine to meet the difficulties which, though extrinsic to the case considered as an intellectual problem, are very important in its practical discussion. The fundamental difficulty of all lies in the fact that so much depends not only on rigid adherence to rules (and there are many more rules for guidance than you might sometimes suppose), but that nevertheless the final arrangement must be left to the individual tact, discretion, and judgment of the practitioner. The theoretical and practical are inextricably intertwined; and the promptness with which theories will often be found to effect modifications of practice, in itself renders medicine one of the most interesting spheres of

human existence. Hence in the most abstract reasoning—if the physician be capable of such—he must always keep his mind intently focussed upon the practical purpose towards which it must converge. He must see all his reasons, not hovering about in the air, like bodiless cherubs, around the bed of his patient; but embodied in tangible facts and and definite actions. He must see that his antiseptic fluids actually reach the infected surfaces; he must see that his hot baths are of a given temperature, and that his cold applications are renewed as often as they grow warm; he must know whether the medicine prescribed has been vomited, whether the food has been given at the stated intervals, whether the pulse has responded to the stimulant. He must know how to enforce his directions, in spite of the reluctance, or indifference, or carelessness, or stupidity, or forgetfulness of his patients; in spite, moreover, of the interference of friends, who invariably try to persuade the sick person to call in another doctor. In many cases the physician must almost, as it were, carry his patient in his arms, encouraging, urging, consoling, inspiring him. To do this he must be capable of sympathy with physical suffering, at once delicate and profound. To be efficacious, this sympathy must be fine, and not blubbering; it must feel for the patient ten times, a hundred times as much as it audibly expresess for him; it must manifest itself in deeds, not in words; in indefatigable efforts to accomplish the essential, not in rambling talk about irrelevant trifles, even when, to the sick person, these seem to be the most important.

And at the same time, while treating his patient as though he were a personal friend—while, if necessary, risking his life for him—the physician must never forget that this same patient is, from the nature of things, a possible enemy. A physician prescribes somewhat as the Spartans under Lycurgus were permitted to propose a new law. If the proposition succeeded, the innovator was honored immensely; but if it failed he was put to death. By the most scrupulous honor and the most conscientious care, the physician is bound to justify a claim to the absolute confidence of his patients; but he must never give them his. He must never be off his guard; never forget that he is the object of incessant criticism, not only for what he does, but also for what he

does not do, and for every detail of his way of doing. It is essential that in every detail, in every expression, in the entire mental atmosphere of the physician, the patient should feel himself in the presence of a superior person. He must be conscious that a mind warm, vivid, and penetrating is dealing with his case. He must be conscious, also, that, notwithstanding this personal sympathy, the physician is studying his case as coolly, impartially, abstractly, as if it were a problem in algebra. If he does not do so—if, moreover, he fail to solve the problem—sooner or later the patient will leave him, perhaps with the best good wishes, but still he will leave him, and try his fortune elsewhere.

You see, therefore, that, in order to be a physician, it is not sufficient to have a good memory and be able to pass examinations. This is indispensable, but much more is required. The capacity to examine minutely, yet generalize comprehensively; to take large views, yet not overlook the smallest details; to be quick to notice, yet slow to speak; to reason cautiously, yet decide promptly; to be at once very cool and very warm; to be tenacious of one's reputation, yet indifferent to careless opinions; to be sensitive, yet not touchy; to be patient in temper, yet capable of wrath; to be absolutely honest, yet successfully prudent; to be unworldly, yet capable of managing the forces of the world—all these mental and moral capacities are necessary to enable a physician to study practical medicine, to practice medicine, and to build up a practice out of services rendered to a crowd of sufferers, at once helpless, ignorant, exacting, and capricious. Varied as are the mental and moral capacities required for this enterprise, they may be all traced back to three, namely: Ability to think, character to control, and honor to act from an internal instead of an external standard of obligation. When these qualities are not possessed, or have been insufficiently developed, one of two things happens. Either, in the competitive struggle, the ill-prepared physician gets crowded out by more capable rivals; or else, he manages to hold his place, but at the expense of patients, ill-treated by him, and who might have been better treated by some one else.

These patients are the persons who must be kept in view by the examining boards, who are licensed with the power to grant

medical diplomas. This power constitues a tremendous social responsibility. It is quite possible for a medical college to have no other function than that of testing candidates. This is the case with the University of London. It gives no instruction at all, but it grants degrees to all persons, who, having been educated elsewhere, are able to pass the scrutiny of its examiners. It must always be the principal function of a medical college to fix the standard of attainment;—and to point out what must be learned and what must be done to reach this: and thus, finally, ascertain as far as possible whether candidates have fulfilled these conditions. The college is then able to turn to society and say to people entirely helpless to judge for themselves: "Here is a person to whom, in perfect confidence, you may entrust your most important interests. Upon his knowledge, his skill and judgment you may rely as completely as upon that of any one of equal professional age in the profession; and upon his honor, you may at once rely absolutely." The responsibility attaching to this assertion is so tremendous: the consequences of a false assurance of confidence may be so various and so disastrous, that in comparison with it, sympathy for the disappointment of an unprepared candidate ought to be left entirely out of sight. The examining board betrays its social trust the first moment that it consents to confer a certificate of capacity upon an incapable person. In such a case, it becomes culpable of the same crime, for which, after the recent Seewanhaka disaster, the grand jury indicted the inspectors to whose false assurances of security that terrible disaster was traced.

This consideration comes up with especial force in regard to women medical students. These are still, by the majority of the public, regarded as disqualified from the practice of medicine merely by reason of their sex. The same reason is not always given. It is sometimes alleged that they have too little mental capacity; sometimes too little general education; sometimes too little physical health; sometimes that their judgment is too flighty; sometimes that their temperament is too excitable; sometimes that they have too little self-reliance; sometimes that they have too much self-assurance. But that, whatever be the

reason, they are intrinsically unable to make, or to be made into, safe practitioners.

When you have assembled together in an institution legally chartered and recognized by the State for instruction in medicine; when you find yourselves going through the same exercises as those which are being carried on in every other college in the city: ultimately brought to a commencement hall, where a band of music and a valedictory address seem to imitate to perfection those of the best equipped universities, it is not unnatural for you to feel as if all this vexed question about women's capacity for the profession of medicine had been entirely settled. In reality, however, it is not so. It has almost reached the point where it can be decided on its real merits, and on the actual results of the work done by women as physicians. But it has not quite reached even this point, since the preparation afforded to the mass of women students is still inferior to that which is attainable, if not attained by men. In the meantime, although skepticism has become more polite, or veiled, it is still much more wide spread than you would probably imagine. Only a few months ago a prominent physician of this city expressed the doubt,—in private conversation it is true,—whether, in twenty-five years from now, any women would be found practicing medicine. A professor of Ann Arbor has recently written two letters to a Michigan paper to express himself as "decidedly adverse" to the attempt of women to practice medicine. A few years ago, one of the lady trustees of this college told me that a friend of hers asked her why she had anything to do with women doctors, when it was notorious that they were all Free Lovers. Last year another lady trustee explained the indifference of so many influential people to the success of this school, as compared with their interest in the Training School for Nurses, on the ground that the latter were felt to be a necessity, while a medical school for women could only add a poorer class of doctors to an already over-crowded profession. There were more doctors turned out now every year than could find work to do in the community; there was not really any reason for helping to manufacture more. When I suggested that some of the women doctors were expected to displace a certain number of men, she was perfectly astonished.

She tacitly took for granted that all the men must first find something to do: what was left over only, could be taken up by the women.

But now this is the very point at issue. Since society is, numerically speaking, already supplied with quite enough doctors, the only way in which women physicians can possibly gain any footing is by displacing a certain number of men. In order to do so, they must evidently show qualifications superior to those of the physicians whom they displace, and sensibly equal to those of the physicians with whom they are to be ranked on an equality.

Now, it is well to at once recognize the fact that a good many difficulties stand in the way of both achievements, and these can only be surmounted when they have been distinctly recognized and systematically provided for.

It is very difficult for women to make headway against the settled opinion of society that they are unfit for final responsibilities. This opinion not only often hinders their education to responsibilities, by preventing people from entrusting them into their hands; but it reacts upon their own minds, is liable to make them hesitating, undecided, timid, and thus still more to justify the social prejudice. It is a common remark, "Women do not feel any confidence in women; in an emergency, they must always appeal to men." This, because it is the habit of centuries so to appeal; because the mass of knowledge, power, and force is still overwhelmingly on the masculine side; because, perhaps, the mass of such force always will be so distributed, and the women in positions of first-class responsibility will always be sufficiently in the minority to be deprived of the benefit of traditional influence and prestige. The claim to equal confidence as made by a woman must be a peculiarly intellectual one, because it must be sustained in spite of a conspicuous inferiority of physical strength. To produce upon the mind of the average public the same impression as may be made by a masculine physician, the woman must exhibit comparatively more force of mind and character, because the force of body is so much less, and in a question of forces the impression unconsciously received from physical size must be taken largely into account. It is like a watch as compared with a locomotive; if there be not greater precision of action in the one,

to balance the imposing massiveness of the other, the more delicate instrument must be crushed with contempt. Many mental habits of women stand in the way of their acquiring this superior precision and surety. These can only be acquired by means of repeated tests, and by the prompt rejection of all work which does not come up to a given standard. But women, as a class, are never habituated to test their work; and have an almost irresistible tendency to appeal to some personal influence to avert the consequences of its failure. I do not wish to make any protest against the habit of appeal to personal influence; it is ingrained in the nature of things and of women, and when restrained within its proper sphere does a great deal of good. But it certainly has a tendency to deteriorate the character of women's work, unless they strenuously resist it.

In the general theory of society, women are not expected to achieve anything. This theory is sometimes the reason that they are not trained to achieve anything—that their education is so flimsy and scrappy; sometimes, again, on account of this theory, so much surprise is elicited when they do achieve ever so little, that they are flattered into a very dangerous over-estimate of their own powers. In this flattery there is often concealed the feeling expressed by Dr. Johnson in his celebrated remark about a woman preaching: "It is," he said, "like a dog standing on its hind legs —it is not well done; but then the wonder is that it is done at all." The tendency of women to nestle within a little circle of personal friends, and to accept their dictum as the ultimate law of things, renders them as liable to be spoiled by this sort of admiration, as they are liable to be discouraged when they do not get any admiration at all.

The remedy for all this, however, is not hard to find. A woman must accustom herself to dispense with the personal approbation of the people she knows, as a stimulus for exertion. She must learn to work for the sake of the work; she must be ready to put into it an amount of labor as would not "pay" if estimated merely by what can be seen on the surface; she must know how to hold her own standard a good deal higher that of partial friends; she must learn, not only to keep calm under blame, but, what is much more difficult for a woman, to bear praise unmoved,

otherwise she will soon cheapen with the praise. The careful self-education of women in all these matters is so much the more important, because it is only by means of it that they can hope to overcome the more external difficulties by which they are weighted. It will not do to forget that their health is often fragile; that they often begin to study somewhat late in life, and when much needful vitality has been exhausted; that they are more frequently involved in family responsibilities and complications. At any rate there is always one two-fold dilemma. They are either pecuniarily well off, and then the force of tradition tends to keep them from working, because, as it is said, there is no occasion for it; or else they work—they study medicine, for instance—under such pressure of pecuniary necessity as leaves them barely the time or the means for adequate preparation. It is comparatively rare that the happy mean exists, where the student possesses just enough money to secure her from want, yet not enough to take away the stimulus for exertion. This is exactly the amount required.

The question of marriage again, which complicates everything else in the life of women, cannot fail to complicate their professional life. It does so, whether the marriage exist or does not exist, that is, as much for unmarried as for married women. In my opinion the increased vigor and vitality accruing to healthy women from the bearing and possession of children, a good deal more than compensates for the difficulties involved in caring for them, when professional duties replace the more usual ones, of sewing, cooking, etc. But in this delicate and important matter the facility of adjustment will vary in every individual case. Many married women will lose all interest in medicine as soon as they have children, as many now fail to develop the full needed interest precisely because they have no other, and are dispirited by isolation from family ties. Many will interrupt their practice during the first few years after marriage to resume it later. Whatever is done, either with or without marriage, can evidently be well done only in proportion as more complete intellectual development and more perfect training enables the woman to cope with the peculiar difficulties inherent in her destiny.

Women may be said to have obtained a foothold in medicine in

modern times on account of the sudden development of gynæcology. It cannot be said that women have contributed much towards this development; but in the treatment of uterine diseases the desirability of women physicians from motives of delicacy, becomes so evident, that a powerful impulse has been created in favor of allowing them to practice at least this branch of medicine. From what I can learn, the majority of women who study medicine do so with the expectation of at once becoming specialists: and certainly, the majority of persons who think of consulting them, think of them first and foremost, if not exclusively, in this connection.

Now, nothing can be more certain than, if women are enabled to practice medicine only in this specialty and for this reason of delicacy, they must, sooner or later, be again excluded from medicine altogether. I say again, because as you know or should know, women have at many different times been admitted to the privileges of medical studies and practice, but have never gained so firm a footing that they were not liable to be displaced. The motive of delicacy; the motive of self-support; the motive of desire for wider spheres of action, are all perfectly legitimate motives, but they are extrinsic to the real reason for the existence of any class of practitioners. This reason is, that such a class is in possession of knowledge which enables it to understand disease, and to cure the sick, and which justifies its members in assuming full responsibility. This full responsibility cannot be assumed, except after liberal study of the whole field of medicine. If, at present, here and there a specialist may arrive at distinction who really only knows one thing: he can only do so because the mass of the profession know a great deal more. If an entire natural class of people devoted themselves exclusively to one thing, they would soon not know even that. Instead of obtaining a position superior to that of the rest of the profession, they must sooner or later sink to an inferior one. In the case of gynæcology and women, the practical experiment has been made: the services of women have been sought on a large scale exclusively from motives of delicacy, and you know in what way. The women were merely assistants—employed to make uterine examinations and report to physicians who were strictly forbidden to

make such examinations themselves. The women experts learned as little of the subject as Milton's daughters did of the Latin they read to him without understanding it. The progress of science was retarded, and their intervention was finally discarded as cumbersome. If women will use this specialty, now often thrust upon them, as a stepping-stone to general medicine; if they will look upon it as the small end of a wedge, and persist in driving it forward to a larger end; then they may assure their position, and that of their successors, by means of this temporary opportunity. But if they do not obtain a foothold on the broad, intellectual basis of general medicine; if they content themselves with claiming this little corner, they will never really gain a high place even there: they will be driven out, little by little, until at last the gynæcological wave may pass by, and leave them stranded. There may be less liability to uterine diseases; or these may be so much more easily foreseen and prevented that much less "local treatment" remains to be instituted; or the sentiments of delicacy may change. Just imagine what would become of a class of physicians now-a-days who had devoted themselves exclusively to the treatment of scurvy or of leprosy! Their occupation would be gone with the disappearance of the disease; and the boon to humanity would result in ruin to their class.

I wish now, in concluding, to call your attention to a last class of difficulties, especially connected with medical schools for women. These difficulties all arise out of one fact, namely, that there are not as yet a large enough number of women studying medicine to support medical schools on a large scale; and schools on a small scale are inadequate, because there is is no such thing as large or small in medicine.

During the thirty years which have elapsed since women first began to study medicine in America, there have always come forward a much larger number to claim the right to practice than to crave the privilege of being thoroughly well educated. This unfortunate majority has been the cause of immense injustice to the higher toned minority, because they have constantly tended to drag the conditions of medical education down to the level of their capacity, or intention to fulfill them. The competent have often

been sacrificed, in order that the incompetent might be satisfied. A Nemesis never fails to wait upon inefficient intellectual work. It invariably grows lifeless, dull, uninteresting; it finally ceases from sheer inanition. On the contrary, nothing more is required to quicken any subject or any occupation into the most vigorous life and fertile interest, than that every one engaged in it should be inspired with an ardent desire for knowledge and for high attainment. Whenever people are content to do a thing in a slovenly and wanton manner, they very soon get to the end of it. But whenever they try to do it as well as it is possible to be done, or try to learn everything about it that any one else knows, they find themselves at the beginning of a task to which there is no end. They find more to do every day; every day, also, they find more power to do it.

If all the students of this, or any other school, were thoroughly imbued with the determination to accomplish the work before them in the best possible manner, many of the difficulties inherent in the comparative smallness of the school would vanish. You should learn to look at yourselves as a colony just landed in a new country; compelled to found a state in spite of hardship, and peril, and danger, and isolation, by means of the vigorous and intelligent co-operation of each of its members. I do not know that any more instructive reading can be found than the history of colonies, a theme with which every American certainly should be thoroughly familiar. In studying the various destinies of the early settlements of this country, you may gather many hints of importance applicable to our present situation. For us, also, the sea has been traversed, the landing effected, the howling savages, represented by the medical students, temporarily repelled. But that is about all which has as yet been done. It remains to be seen whether our colony contains in itself the stuff out of which the Bay State was built up; or rather those vicious and corrupting elements which corroded to destruction so many settlements south of the Potomac. And do you know what was the one predominating influence that led to such destruction? It was that the mass of gentlemanly emigrants, who had not learned how to dig, and who were by no means ashamed to beg; who had left the mother country, not to seek an opportunity to work more,

but to work less; to shirk all the work they possibly could; to profit by the industry and courageous patience of their companions, in order to share, without due share of labor, the revenue accruing from their tobacco and their corn. These are not the characters which could have founded Massachusetts and laid the corner-stone of that State, where, a century later, "embattled farmers could fire the shot that echoed round the world."

Their's is the stuff, these are the characters, this is the austere, self-denying, intelligent heroism, which is needed for our enterprise —for this also still deserves to be called heroic.

ARTICLE II.

THE PATHOLOGY AND TREATMENT OF YELLOW FEVER; WITH SOME REMARKS UPON THE NATURE OF ITS CAUSE AND ITS PREVENTION. By H. D. Schmidt, M. D., New Orleans, La. (Continued from page 481, May No., 1881.)

PATHOLOGICAL ANATOMY.

1. CONDITION OF THE SURFACE AND INTERNAL ORGANS OF THE BODY, AS REVEALED BY AUTOPSY.

As in the majority of fatal cases of yellow fever, the patient is attacked by the disease while in his ordinary condition of health, and, as in most instances only a few days intervene between the attack and the fatal issue, the dead body usually presents its natural appearance in form and dimensions. But, as regards the color, a most striking change has taken place; for the whole skin is now of a distinct orange-yellow color, even in cases where no jaundice was observed during the course of the disease. In fact, this yellow appearance of the skin is so invariably met with after death, as to have given rise to the very appropriate and characteristic name of the disease. The intensity of the color, of course, differs in different cases; but, it may be said, that it is usually proportionate to the severity of the case. Generally, it is deepest about the head and trunk, fading toward the feet, and corresponding to the manner of its progress during the course of

the disease. Toward the end of an epidemic a number of cases are met with, in which the jaundice only extends to, or slightly beyond the knees. Very soon after death—sometimes even during the mortal agony—hypostatic congestions are observed, especially around the neck, shoulders and back; but, frequently also about the face, ears, hands, feet, scrotum and penis.

In opening the *cranial cavity*, the *dura mater*, with the exception of the yellow tint which it presents, is usually found in a normal condition. In some instances, a smaller, or larger number of Pacchionian granulations, which, however, bear no relation to yellow fever, are met with. The serous fluid, contained in the arachnoid cavity, and also the surface of the brain covered by the arachnoid membrane and pia mater, present the same yellowish color. This coloration, moreover, is observed in all the tissues of the body, extent and intensity being proportionate to the severity of the case. The *pia mater* is almost always found more or less congested. Very frequently, not only the larger and smaller veins are filled with blood, but also the cerebral and basilar arteries with their arterioles. In some cases I have found the congestion to extend over the whole of the cerebrum and cerebellum, while in others it extended more or less only over the parietal and frontal lobes; but, the pons varolii and medulla oblongata were invariably found in a state of considerable hyperæmia. The *arachnoid membrane* is frequently opaque, or even slightly thickened by exudation, and the subarachnoid space filled with serum. In such cases, the serous effusion has usually extended into the *substance* of the *brain*, producing an œdematous appearance of this organ. In most cases, however, the hyperæmia has extended throughout the whole of the latter, which then often appears swollen and œdematous throughout. The ventricles are then frequently found filled with a yellowish serous fluid, sometimes turbid in appearance, and the blood-vessels ramifying on their surfaces, together with the vessels of the choroid plexus, distended with blood. If the brain is cut into, the yellowish tint is observed to extend into its white or medullary substance, and the blood is seen issuing from the open ends of the cut blood-vessels. The blood-vessels of the pia mater of the cervical and lumbar portions of the *spinal*

marrow, also, are found congested with blood, particularly in the latter region; in some cases, even, opacity of its arachnoid membrane is observed throughout the whole region.

In the thorax, the *lungs* generally present a normal appearance, though in some cases, smaller or larger portions of these organs are found congested, or in an emphysematous condition; other pathological changes met with do not properly belong to yellow fever. The *pericardium*, with the exception of the yellow tinge, is usually normal; but the fluid within its cavity, also tinged yellow, has sometimes appeared to be increased in quantity. In uncomplicated cases, the *heart* is generally found normal in size and form, and no changes are observed on its valves and tendinous structure, though the endocardium is frequently marked by the yellowish tint. In many cases, however, its muscular tissue, when cut, presents a pale yellowish hue, and is rather soft in consistence; sometimes to such a degree as to be quite friable, and easily torn. In the latter instances, its reddish flesh color has entirely disappeared, and yielded to a pinkish yellow tint, indicating a high degree of fatty degeneration. In a number of cases, I met with yellow-tinged fibrinous bands, or clots of a delicate jelly-like consistence in the left ventricle; or, also, with clots of coagulated blood in the cavities of the right side of the heart.

In opening the *abdomen*, the same yellow tint is presented by the organs enclosed in this cavity; the liquid found in the latter is also frequently yellow. The veins of the abdominal viscera, contributing to the formation of the portal vein, are almost invariably found more or less distended with blood. In many cases, the congestion can be seen by the naked eye to extend into the venules of the intestines.

The *liver* invariably presents, either in parts or throughout, the characteristic pale yellow appearance, indicating fatty infiltration or degeneration. In former epidemics, I have met with a number of cases in which this yellowish appearance was only presented by larger or smaller portions of this organ, while others presented a bluish color, indicating a simple congestion; and again, smaller portions were observed to have retained their normal appearance. Moreover, when the organ was cut and pressed,

small drops of bile were, in some instances, still observed issuing from the cut ends of the biliary ducts. During the epidemic of 1878, however, the fatty infiltration generally extended throughout the whole liver, often to such a degree as to render the parenchyma of the organ quite friable, and easy to be torn. In a limited number of cases, this organ presented more or less the well-known "nutmeg" appearance, while in others the congestion appeared to be confined to the "inter-lobular vessels."

The *gall bladder* contained, in almost every case, a greater or smaller quantity of a dark-brown, or black tar-like bile; its walls were thickened by œdema. Only in those cases in which the fatty infiltration had not extended throughout the whole liver, have I observed the bile of a lighter brownish color, and in a perfectly fluid condition.

The *mucous membrane* of the *stomach* presented in the thirty cases which I examined during the epidemic of 1878, more or less that peculiar form of congestion, to be described hereafter; and with only one exception, the stomach itself was found to contain a larger or smaller quantity of black vomit. In the exceptional case the patient had vomited the black fluid shortly before he died. As regards abrasions, or actual lesions of the mucous membrane of this organ, I have failed to discover any during the last epidemic, nor can I remember to have observed some in the cases which I examined in former epidemics. In only one case during the epidemic of 1878, I observed a black spot of an oval form, about 5 by 4 mm. in extent, in the mucous membrane, presenting a gangrenous appearance. On a closer examination, however, this proved to be an extravasation of blood into the tissue of the membrane, and not an actual lesion; its surface being smooth and on the same level with the rest of the membrane. The color of this membrane, of course, depends on the extent and degree of intensity of the congestion; though in those parts free from the latter it is generally normal in appearance. In those cases which I examined previously to 1878, I remember to have met with some in which the mucous membrane of the stomach presented but slight traces of congestion, and was unusually pale, but not friable, as has been stated by some authors. I can-

not but think that the friable condition observed by the latter, was owing to post-mortem changes.

The *spleen* presents, in the great majority of cases, a normal appearance, and when cut its pulp assumes a scarlet hue. Only in exceptional cases did it appear enlarged, or did its pulp preserve its original dark, reddish-brown color.

The *kidneys* usually present a more or less abnormal appearance, both in consistence and color, though of normal size. In a few instances only I have observed them slightly enlarged, and softened. When a longitudinal section is made through one of these organs, it is found that the medullary substance, represented by straight tubules only, has preserved its flesh color, while the cortical substance has assumed a more or less yellowish tint. In a considerable number of cases, however, this tint does not extend throughout the whole organ, for there are certain portions left presenting an almost normal appearance. In fact, I have met, during the last epidemic, with cases in which the kidneys appeared entirely normal, so that in some instances I did not care to preserve them. In certain other cases during previous epidemics, I have observed the kidneys in a high degree of congestion, marked by a bluish-red color throughout. I have never met in yellow fever with the so-called "large white or smooth kidney," characteristic of parenchymatous nephritis.

The condition and appearance of the *supra-renal bodies* will be described in the following parts of this treatise.

The *urinary bladder* is generally found in a normal condition; in a few cases only I have observed traces of a slight hyperæmia in the mucous membrane, near the outlet of the organ. In about one-half of the cases examined in 1878, I found it still to contain a smaller or larger quantity of urine, and in one case it was even found distended with this fluid.

A peculiar slightly pungent odor, similar to that arising from the perspiration of the living patient during the course of the disease, may also be observed to arise from the interior of the dead body, while it is still warm, and when its cavities are opened, or when the muscles are laid bare and extensively cut into, as is done in removing the spinal marrow from its canal. This odor, like that arising from the body of the living patient,

has at all times been perceived and mentioned by a number of physicians performing autopsies, while others have failed to detect it. The failure of the latter, however, may either have depended on a certain dullness of their olfactory sense, as once mentioned before, or upon their autopsies having been performed at a time when the body had entirely parted with its heat. In my own cases, the autopsies were made from three-quarters of an hour to three or four hours after death; in only a few instances the time extended to five or six hours. I am the more convinced of the existence of this odor, as I have compared it with the ordinary odor arising from the dead bodies of cases dying from other diseases, and on which the autopsy was performed at the same time.

The above description of the condition of the organs of the dead body in fatal cases of yellow fever, as revealed by macroscopical examination, relates in particular to the thirty autopsies which I carefully made during the epidemic of 1878; and, furthermore, to others almost as numerous, and performed at the Charity Hospital during previous epidemics, either by myself or by the surgeon or resident students of that institution.

2. Pathological Changes, Occurring in the Tissues of the Organs during the Course of the Disease, and Revealed by Microscopical Examination.

The pathological changes produced in the tissues of a number of organs by the direct or indirect action of the noxious poison of yellow fever, are, individually considered, by no means pathognomonic of this disease. On the contrary, they are equally observed in other diseases, whether infectious or not, in which the nutrition of the system has been disturbed and deranged, either by the interference of an infectious poison, or by the abnormal performance of the function of one or another organ. It is, therefore, only when considered as a complex, and in association with the clinical, phenomena, that these changes may receive a pathognomonic significance. But, even, without regard to this significance, the exact knowledge of these changes is so highly essential to the knowledge of the true nature of the disease,

as to render the importance of their microscopical study obvious to every physician. For this reason, I shall, in describing the pathological condition of the organs, as revealed by a close and accurate microscopical examination, enter more into the details of the subject than I have done in the preceding part of this treatise, in which the object in view was to combine exactitude of description with brevity of communication. And as this treatise is intended to be read, not only by the accomplished physician, but also by the medical student, as yet not thoroughly familiar with the more minute studies of anatomical science, I deem it practical to draw a brief sketch of the normal histology of the respective organs, before describing the pathological changes which they undergo during the course of the disease.

I shall begin with that most important and interesting tissue, the blood, which, partly solid, partly fluid, receives all matters, essential to the maintenance of the life of the body, and which, in distributing them to all its parts, represents the most important factor in the process of nutrition. But, while it thus receives and distributes the materials essential to the normal condition of the organism, it is also capable of receiving noxious substances, such as infectious poisons, from the surrounding air, which, in disturbing the process of nutrition by their deleterious influence, give rise to pathological phenomena, characteristic of the disease under discussion. The condition and behavior of the morphological elements of this liquid tissue in a number of diseases have of late formed a special subject of research and discussion, and have given rise to many contradictory statements and views. It is therefore desirable for the medical practitioner to be acquainted with the leading facts of this subject, to enable him to form an opinion of his own.

THE BLOOD.*

The colored blood corpuscles of man represent, like those of other mammalia, minute bi-concave disks, the mean diameter of which ranges, according to the very accurate measurements of *Woodward*, from .00731 to .00772 mm., though in some speci-

* A portion of the following description of the morphological elements of the blood will be taken from my last paper on this subject, embodying my own researches, viz.: "The Structure of the Colored Blood-corpuscles of Amphiuma tridactylum, the Frog and Man," published in the *Journal of the Royal Microscopical Society of London*, 1878.

mens I have observed them slightly larger. They are very delicate in substance, and being elastic and flexible in an unusually high degree, are enabled to resume always their original form when distorted by mechanical causes. In fact, the momentary changes of form, which they are constantly undergoing when floating in the liquor sanguinis, are owing to the great delicacy and elasticity of their protoplasm. In examining them under the microscope with a sufficient amplification, we observe that the most feeble current arising in the liquid in which they float, disturbs their form, either directly, or from mutual contact or pressure. When a colored blood corpuscle of man is examined in a state of rest from the front, its outline appears perfectly round. Bring it into proper focus, so that its outlines appear the most distinct, its center, to the extent of about one-third of the whole diameter appears light. Proceeding toward the periphery of the corpuscle, a slight shade is seen to arise from the light center, which, after increasing somewhat in depth, is gradually lost, to be followed by the high light, representing the convexity of the margin. This variation of light and shade is, of course, caused by the form of the corpuscle. The convex margin appears most illuminated at the highest part of the convexity, when the rays of light passing through it undergo very little refraction, while more or less shade must appear, by virtue of the refraction of light, at that part of the surface which inclines toward the center, and forming a part of the concavity; the center, finally, being the thinnest portion of the corpuscle, and very nearly flat, must, from the absence of almost any refraction, appear light. Owing to the rounded margin of the blood corpuscle, its very outlines do not appear distinct and sharply defined; on the contrary, a delicate shade is observed at the very edge, which soon disappears in the high light of the convexity. No trace of the existence of a membrane, or a membranous layer can be discovered in the fresh blood corpuscle of man. When brought into exact focus, it appears encircled by a narrow ring of a pinkish tint, much lighter than the rest of the surrounding liquor sanguinis; this phenomenon is probably owing to the corpuscle refracting the light towards its less refractive medium. The appearance of the colored blood corpuscle of man in exact profile is peculiar, and

corresponds not to the bi-concave form in which it is so often erroneously represented. Recollecting that its body represents a minute plate or disc, the peripheral portion of which, besides being convex and rounded at its border, is twice as thick as the central, which is concave; and further, that it is perfectly symmetrical at all points, it becomes evident that the outlines of its profile must be represented by two *straight* and *parallel* lines, connected at their extremities by two semicircular ones; and accordingly the side-view of the corpuscle could not reveal the concavity of the central portion. But, if a vertical section were made through the center of the corpuscle, the outlines of the cut surface would be represented by two slightly curved lines, which, directing their convexity toward each other, are connected by semicircular lines, the whole showing not only the bi-concave form of the central, but also the convex and rounded form of the peripheral portion of the body.

The color of a single blood corpuscle when seen under the microscope is not yellow, as has been stated sometimes, but more of a light greenish tint. It is only when a number of blood corpuscles are collected into a small mass or group, and rest upon each other, that the original greenish tint merges into a yellow. With the increase of the thickness of the mass, the yellow becomes darker, and finally passes into the scarlet red, as seen in a drop of blood.

Soon after a small drop of human blood has been put on the glass slide and covered with the plate of thin glass, a number of blood corpuscles are observed to change in various manners, and in a slighter or greater degree, their original form. In some instances the convex peripheral portion of the corpuscle appears to shrink in thickness at one point, while the rest of it swells and gains in diameter, so that the whole body assumes a wedge-like form. In other instances the blood corpuscle assumes the form of a shallow basin, an appearance which is very probably caused by a contraction of the convex border of only *one* surface, by which process the concavity of this surface increases in depth, while the other surface is rendered convex instead of concave. If the contraction continues, the corpuscle assumes the form of a deep cup. Whether during this process the central portion

increases in thickness, while the convex periphery is rendered thinner by the contraction, is difficult to determine; but that the contraction takes place only on *one* surface of the convex margin is obvious, for, if it occurred throughout the whole margin, the corpuscle would not become cup-shaped, but would preserve its original form of a disc, though its central portion might gain in thickness, while the concavities of its surfaces would decrease in depth, or entirely disappear. Sometimes the convexity of these cup-shaped forms terminates in a conical protuberance. There is another very singular form observed, difficult to describe, but resembling in some respects the wedge-like form, with the exception of the narrow portion of the wedge; instead of being straight, assuming here the form of a Y, showing that the body must be three-sided.

Intermediate forms, similar to those above described, are observed; but it will be noticed that in all these instances it is only a portion of the protoplasm of the blood-corpuscle which is contracting, while the rest is expanding in compensation of the contraction. There are, however, other changes occurring in the form of the corpuscles, owing to a contraction of the protoplasm throughout the whole body, and accompanied by a considerable diminution in size. As the result of such a contraction we may regard those familiar forms of blood corpuscles, generally compared to a mulberry or thornapple. These, when occurring on the blood corpuscle of fresh blood, and without the action of a reagent, have generally been attributed to the evaporation of the liquor sanguinis. With the increase of the density of this liquid, namely, an exosmotic current from the blood corpuscle is supposed to be induced, causing shriveling of these bodies. If this view were correct, those corpuscles nearest to the edge of the film or layer of blood under the covering-glass, should first undergo the changes in question. But this is not always the case; on the contrary, single mulberry or thornapple-shaped blood corpuscles are observed among the mass of unaltered ones in the center of the preparation, immediately or soon after the blood is placed on the slide. Soon after, other individual corpuscles are seen to assume these forms, the number increasing with the time, until finally whole groups or the entire mass may undergo this

change. In other instances, considerable portions of the blood corpuscles of the preparation may, soon after the blood is put upon the slide, contract at once, and assume the thornapple form, appearing almost as if affected by a general contagion. The thornapple form may even be produced by the action of water, as I have observed. The form of the blood corpuscle, when gradually and slowly undergoing these changes, seems to pass through several phases. The first deviation from the original form observed consists in minute elevations and protuberances, arising from the surface of the corpuscle at its rounded margin, thence, while increasing in number, extending over the entire corpuscle. Next, the protuberances, at first of a conical form, become gradually smaller in diameter at their base, while their points or summits enlarge to assume the form of an imperfect knob, resembling a granule. It is at this stage of the change that the form of the blood corpuscle has been compared to that of a mulberry. As the change continues the globular projections become thinner, until finally they are transformed into minute, sharp, spinous processes. In this state the blood corpuscle resembles a thornapple. But it is not necessary that, when the change of form has set in, it should pass through all the stages to the ultimate thornapple form; on the contrary, the contraction may cease at any stage of the process, or even cause at once the mulberry or thornapple form. Very little alteration in the general form of the corpuscle is observed to take place by this process; it is not rendered spherical, as might be supposed, but represents still a disc, though the concavities may have disappeared from its surfaces, or even be converted into convexities.

The colored blood corpuscles of man are also endowed with the power of spontaneous motion, protruding and *retracting* minute processes similar to those observed on the thornapple form, a phenomenon which I first discovered in the summer of 1871, and which shows that these bodies not only possess a certain inherent power of contracting their bodies, but also of resuming their original form by a subsequent expansion, a characteristic property of the living protoplasm, enabling the corpuscle to manifest these motions, though not to so great an extent as is seen in the colorless. Keeping in mind this inherent property of the colored

blood corpuscles, a part of the difficulty hitherto encountered in tracing these various spontaneous changes, occurring in the form of these bodies, to their cause, will be removed.

Nevertheless, as these changes are not only observed to occur in different localities of the same preparation of blood, and under different circumstances, but, moreover, are observed to occur in a greater or less degree in different specimens of blood taken at different times from the same individual, much doubt will still remain as to the true cause of the phenomenon, and the conditions under which it is manifested. The question, therefore, arises: Do these changes of form indicate progression and development, and a high degree of vitality residing in those blood corpuscles exhibiting them, or do they result from a loss of vitality, and are they manifestations of retrogression and decay? In the one case, they would probably occur on the young, in the other on the old corpuscle.

If the changes affecting the form of the colored blood corpuscle, and evidently caused by a contraction of its protoplasm, were indicative of a higher degree of vitality or molecular action, we should meet with a greater number of mulberry or thorn-apple-shaped, or otherwise deformed corpuscles in the fresh blood. But as, on the contrary, the number of these forms is comparatively small, immediately as the blood is removed from the living tissues, and, moreover, increases sometimes quite rapidly in proportion to the length of time intervening, it appears more probable that these changes of form indicate retrogression, and we may be justified in regarding them as the result of the last vital action manifested by the blood corpuscle, and portending its death.

When a very small portion of human blood is spread upon a glass slide, and after being covered by a thin plate of glass, a drop of water is added to the preparation, it will dilute the liquor sanguinis and induce an immediate escape of the hæmoglobin from the blood corpuscles, rendering the liquid in the vicinity of the latter, according to their number, more or less turbid. At the same time the blood corpuscles will be set in motion, and float away in the clearer parts of the liquid. Continuing to part with their coloring matter, they are gradually rendered pale, and finally appear as mere shadows. If now a portion of the liquid is

removed by the careful application of a minute point of a piece of blotting paper, and its place filled by a small drop of clear water, the shadow-like blood corpuscle—if examined by a first-class objective—will appear bordered by a delicate double contour. The central portion of the corpuscle, encircled by the inner contour, appears now of the color of the field, while the margin, included by the two contours, appears lighter when put into the exact focus. This double contoured margin represents the outer portion of the protoplasm of the colored blood corpuscle forming the surface, which is denser in its molecular constitution than the rest of this substance, enabling it to withstand the solvent action of the water, endosmosing into the interior of the blood corpuscle, while the rest of the protoplasm is discolored, and perhaps dissolved, or otherwise affected by the action of this fluid. In the fresh and unaltered condition of the blood corpuscle of man, this denser portion of the protoplasm, forming a very thin layer on the surface of the latter, cannot be demonstrated, having the same index of refraction as the rest, but by the action of water, or of solutions of certain other reagents, it becomes visible in the form of an artificial or pseudo-membrane, for which reason I have named it the "membranous layer" of the blood corpuscle.

The changes produced in the colored blood corpuscle by the action of water are equally observed when these bodies are treated by a number of other reagents, both in liquid and gaseous form; they mainly consist in the escape of the hæmoglobin, contraction or coagulation of the protoplasm, and change of form. The action of the chloroform vapor particularly is very rapid in causing the escape of the hæmoglobin, though it does not dissolve the corpuscles as has been stated.

As regards the colorless blood corpuscles of man, it may be stated that they consist of a pale, finely granular protoplasm, inclosing, in most instances, one homogeneous disc-shaped nucleus, though sometimes two nuclei are observed. In the fresh blood, a considerable difference exists in the size of these corpuscles. In the protoplasm of the larger corpuscles, a group of dark-bordered granules, much larger than those properly belonging to the protoplasm itself, and rather similar to the pigment granules of the gangloin cells of the nervous centers, are observed. If a speci-

men of blood is examined fresh, and under the proper condition, these dark granules may be observed to perform certain oscillating movements, while the pale granules of the protoplasm also exhibit a constant motion, though more rotary or molecular in kind, and not as active as that of the former. Besides these movements of the individual granules—which seem to be identical with the well-known "Brownian movements" of minute particles—there are the so-called amœboid movements, in which the entire protoplasm of the colorless blood corpuscle takes part, consisting in a continuous change of form by the alternate projection and withdrawal of larger or smaller processes, resulting in locomotion. The amœboid movements of the protoplasm are not regularly observed to take place on all colorless blood corpuscles of the same specimen of blood; according to my own observations they appear to occur more rarely in the smaller individuals than in the larger. In some cases, these movements appear immediately after the fresh drop of blood is put upon the glass slide; in others, again, only after the addition of some water or slightly alkaline solution, or the application of warmth. In the fresh unaltered condition no enveloping membrane can be discovered on these corpuscles, but by the action of water I have frequently observed them bounded by a very delicate double contour. The proportionate number of the colorless blood corpuscles to the colored is very small, and varies in the blood vessels of different parts of the body of the same individual, as well as at different periods of the day. In the normal condition of the blood, the proportion has been estimated to be one colorless to two or three hundred colored blood corpuscles.

Besides the above described blood corpuscles, an insignificant number of very minute colored corpuscles are met with in many specimens of normal human blood. The diameter of these bodies ranges from hardly one-third to two-thirds of that of the ordinary colored blood corpuscles. They have been called "microcytes," and regarded as younger individuals; a view corroborated by my own observations on the development of the colored blood corpuscles in the human embryo, where many of them are met with in the blood as late as the third and fourth month of embryonic

life.* The same view is taken by *Hayem*,† who met with the smallest forms of these bodies, $\frac{2}{1000}$ mm. in diameter, always under conditions where a new formation of colored blood corpuscles might be supposed, as in new-born children, menstruating women, after losses of blood, or in feeble individuals. I have frequently observed these minute corpuscles having assumed the thornapple form.

Independent of these minute colored corpuscles, however, not unfrequently other elements are met with in normal blood, not larger than minute organic granules, and colorless. They have been seen and described under different names by different observers, and have been generally considered to be derived from the granular protoplasm of the colorless blood corpuscle. When first known as the "elementary bodies" of *Zimmermann*,‡ who had demonstrated them in salted blood, they were regarded as the colorless remains of disintegrated colored blood corpuscles (Henson), and to be identical with the granular formations, previously met with in the blood by *Max Schultze; Béchamp* and *Estor*, who also observed these granular elements in the blood, called them "microzyma;" and, observing under the microscope a colored blood corpuscle breaking up into a number of these microzyma, while, on the other hand, they also observed a number of these elements aggregating and forming a colorless blood corpuscle, they concluded that all blood corpuscles represented aggregates of microscopical organisms.§ Elements, identical with the above, were moreover mentioned by *Bettelheim* and *Lostorffer*. Under the name of "hæmococci," they were subsequently described by *Nedsvetzki*|| as minute round bodies, resembling the granular particles of the colorless blood corpuscles, and forming normal constituents of human blood, becoming very distinct with an amplification of from 900 to 1,000 diameters, and found in large numbers among the colored and colorless corpuscles. In the dead colorless blood corpuscles, he observed molecular motion to take place, and, furthermore, the formation of a light zone

Monthly Microscopical Journal, February, 1874.

†*Virchow u. Hirsch*, Jahresbericht fuer das Jahr, 1877, Vol. I., p. 38.

‡ *Rollett*,—Stricker's Handbuch der Lehre von den Geweben, etc., p. 300.

§ *Virchow u. Hirsch*, Jahresbericht f. d. Jahr 1870, Vol. I, p. 18.

|| l. c.—für das Jahr 1873, Vol. I, p. 50.

around them, into which the minute granules entered, and thence passed into the liquor sanguinis, where they continued their movements in the same manner as in the hæmococci.

At present, there remains no doubt but that all these granular elements, met with in normal blood, and named differently by different observers, are derived from the finely granular protoplasm of the colorless blood corpuscles, and the movements they may exhibit are simply "Brownian" in their nature. I have frequently met with protoplasmatic remains of colorless blood corpuscles in human blood; and, a number of years ago, in the case of a man poisoned by cyanide of potassium, I observed, eight hours after death, a number of these amœba-form masses of protoplasm without nuclei, in which the minute pale granules were still in active motion; which continued for a considerable time after the addition of water to the preparation.

Having, by the above sketch of the anatomical elements of the human blood, prepared the way for the description and discussion of the condition and behavior of these elements in yellow fever, I shall now return to the original subject. The specimens of blood which I examined during the epidemic of 1867, were obtained from hæmorrhages from the nose, occurring on some of my patients. The blood was collected in small vials, and a limited space of time, of course, elapsed, before I could examine it at my office. The microscopical examination of these specimens showed that the greater portion of the colored blood corpuscles had assumed the thornapple form, but I was unable to detect any other abnormal condition of these bodies, nor any foreign body in the specimens. In other specimens—taken during the same or succeeding years—after death from the larger superficial veins of patients at the Charity Hospital, I was also unable to detect anything foreign to this liquid. The blood corpuscles, in general, exhibited the same characters and phenomena as those of healthy blood under the same conditions. Only in one case, I observed some phenomena on a small number of colored corpuscles, which, at that time, I was unable to explain satisfactorily to my mind. These blood corpuscles, namely, presented two or three *apparent* openings, or, better said, solutions of continuity upon their surfaces, manifesting themselves by a bright light-pinkish color.

From what I know at present, this phenomenon must have been owing to the presence of minute vacuoles in the protoplasm of the corpuscles, such as I, sometime afterward, discovered on a large scale in the giant blood corpuscles of *Amphiuma tridactylum*. On some other colored corpuscles of the same specimen, I observed the membranous layer of the corpuscle separated from the rest of the protoplasm, a phenomenon which I also subsequently observed on the colored blood corpuscles of the frog. As, in these cases, the blood had been taken from the dead body, it is obvious that the phenomena observed were owing to the post-mortem changes, for which reason I attached no importance to the observation.

During the month of August, in the midst of the epidemic of 1878, I made, more systematically than before, a series of examinations of the blood of living patients at the Charity Hospital. They were made in the following manner: The microscope being placed near one of the windows of the ward for the purpose of obtaining the best light, and with everything required for the examination, such as glass slips, covering glasses, etc., in perfect order and readiness, I went to the bed of the patient, and to obtain the blood made a small incision into his forearm. Knowing from my former researches upon the normal blood that the colored blood corpuscles of the first drop, issuing from the capillaries of the skin, are more liable to changes of form, when placed upon the glass slide, than those coming from deeper parts, I took the precaution of making no use of the first drop, except in a few instances. For this reason, the skin was again cleanly wiped, and a small portion of the blood next appearing in the incision quickly—at the bedside—placed upon the glass slip, and covered with a very thin and small cover glass. As soon as covered, it was put upon the microscope for examination.

Previous to these examinations of the blood of the living patient, I had observed in some sections of liver and of some other organs, taken from yellow fever cases, extravasations of free hæmoglobin from the capillary vessels, and its absorption by the surrounding cells; and, in accordance with this observation, I somewhat expected to meet with free hæmoglobin in the blood

itself, supposing its escape from the colored blood corpuscles to be caused by the action of the specific poison of the disease upon the latter. And, by coincidence, I really found in the first specimen which I examined some of this coloring material, which, however—as must be remembered—is a phenomenon not unfrequently met with, even, in the examination of normal human blood. In this specimen, moreover, I observed that the greater portion of the colored blood corpuscles presented mulberry and thornapple forms, while the rest was rapidly assuming them. In all other respects, with the exception of a few microcytes, the blood appeared perfectly normal. *Not a single bacterium, or spore of a fungus*, was I able to discover, though I honestly endeavored to do so. In the next specimen of blood which I examined, and which was obtained from the same patient and from the same incision, I did not even meet with the free hæmoglobin. But, as in the first specimen, in this also, the greater portion of the colored blood corpuscles had already assumed the mulberry or thornapple forms when first seen under the microscope, while the rest was undergoing these changes quite rapidly.

In this manner I examined the blood of *fifteen* living patients, representing the different stages of the disease: that is, from the second day to one-half hour before death, or to convalescence. Two specimens of blood were examined in each case; in some even as many as three or four, but on different days. In all the cases, with the exception of two, the blood corpuscles presented the mulberry and thornapple forms, adhering frequently to each other in the form of rolls, forming irregular anastomoses. In a number of these cases the blood corpuscles had already assumed these forms and arrangement when first seen under the microscope; this was decidedly the case in a specimen of blood taken from a patient during the agony of death. In the two cases of exception, the colored blood corpuscles presented an appearance as normal in form and character as I ever beheld, and, moreover, retained it for a considerable time. The patients here were both Germans; the one, a boy, of 15 years, who had arrived at New Orleans by an English steamer three weeks before he was taken with the disease; his blood was examined on the fourth day, during the second stage of the disease; he recov-

ered. The other was a strong and hardy young man of 22 years, a gardener, who had arrived from Germany during the month of February, 1878; his blood was examined on the second day of the disease, when he was very restless and slightly delirious; he died on the fifth day.

As regards the colorless blood corpuscles in the specimens of blood taken from the above-mentioned fifteen patients, nothing specially abnormal could be discovered. In one specimen only, taken from the blood oozing from a slight wound of the ear of a patient, and during the second stage of the disease, the relative number of these corpuscles appeared to have slightly increased, and amœboid movements were observed on some of them. In the other specimens, most of the colorless corpuscles observed belonged to the smaller kind, performing no amœboid movements, their number being, as far as I could judge, in a normal proportion to the colored blood corpuscles.*

Two specimens of blood, obtained two hours after death, for the purpose of determining the relative quantity of fat they contained—the one from the portal vein, the other from the right side of the heart—were also examined. They presented nothing remarkable. A portion of the colored blood corpuscles had assumed the thornapple form, while the rest had preserved their natural appearance; they were adhering to each other, forming rolls, no bacteria or fungi-spores were met with.

In reviewing now the results of my numerous examinations of the blood, it must be admitted that the condition in which its morphological elements were found, actually offers nothing remarkable, or otherwise, which in any way could be interpreted as peculiar or characteristic of yellow fever. The only conclusion to be drawn from these observations is, that the colored blood corpuscles of yellow fever blood are strongly inclined to assume the mulberry and thornapple forms as soon as removed from the circulation, indicating, in accordance with the view I have previously expressed, a certain loss of vitality. But the significance,

*The results of my examinations of the blood in yellow fever have been corroborated by *Dr. Sternberg*, who examined a considerable number of specimens in the Military Hospital at Havanna in 1879, without discovering any bacteria, or other minute organisms, in the fresh blood. Regarding the colorless blood corpuscles, however, he met in several cases with some which presented fat globules in their protoplasm, a phenomenon which finds a satisfactory explanation in the fatty infiltration of other organs.

which this phenomenon might appear to have in connection with the particular nature of yellow fever, is lost when we consider that the same behavior of the colored blood corpuscles has been noticed in the blood of patients laboring under other febrile infectious diseases by a few observers, though others fail to mention it. Thus, *Laptschinsky** found in his histological examinations or the blood of patients, suffering especially from febrile infectious diseases, that the colored blood corpuscles formed no columns of so-called money-rolls, but aggregated in masses and lumps of different sizes and form. The individual blood corpuscles frequently appeared as if swollen and turbid, their contours being less distinct. In such cases, he also frequently met with very minute blood corpuscles, adhering to each other quite tenaciously in the form of small aggregates. The colorless corpuscles, also, appeared increased in number, their amœboid movements were distinct, and extended upon the nuclei.

Thus far, then, no particular value should be attached to the fact that, with a few exceptions, the colored corpuscles of yellow fever blood assume the mulberry or thornapple form quite rapidly after their removal from the circulation; the significance of this phenomenon should be regarded as of secondary importance. Although I presume that the cause of this unusual tendency of the colored blood corpuscles to assume these abnormal forms is probably due to a loss of vitality by the pernicious influence of the infectious poison, I do not attribute the final effect to this cause alone, but, on the contrary, rather consider their removal from the living tissue, together with the exposure to the atmosphere, as the main factors concerned in the whole phenomenon. The loss of vitality renders the blood corpuscle more sensitive to the influence of these factors, which, in its healthy condition, it might have resisted for a limited space of time. In a number of specimens of blood, taken from the living patient, a portion of the colored blood corpuscles, as above mentioned, had already assumed these abnormal forms when first seen under the microscope; an observation which might lead to the supposition that they had undergone this change while still circulating in the blood vessels. I can safely assert that this is not the case, for I

**Virchow u. Hirsch*, Jahresberischt f. d. Jahr. 1874, Vol. I., p. 339.

do not remember that in the numerous thin sections of all parts of the brain and other organs, which I have made and examined, and in many of which—especially in those of the brain—all the minute blood vessels are filled with blood, I have ever met with mulberry or thornapple-shaped blood corpuscles. And, moreover, in order to satisfy my mind on this particular point of the subject, I have lately re-examined a very considerable number of thin sections of the brain, sympathetic ganglia, and some other organs, and obtained the same results.

But though we may not attach any pathognomonic value to these almost constantly occurring morphological changes in the colored blood corpuscles in yellow fever, they may nevertheless be regarded as a result of the febrile process in general. Of late years, quite a number of observers have directed their attention, not only to the relative proportion of the morphological elements of the blood to the liquor sanguinis, or to the relative number of the colored and colorless blood corpuscles themselves, in various diseases of the blood, but, moreover, to the morphological changes to which these bodies are liable in different diseases. The extreme sensitiveness of the blood corpuscles to extraneous influences, however, renders it in many cases difficult to determine whether the changes observed are due to the latter, or to real morbid causes; therefore, the investigator should be perfectly familiar with the morphological changes observed in normal blood, and not be endowed with a too vivid imagination.

As regards those minute colored corpusles, the so-called "microcytes," the proportionate number of which in normal human blood is 1 to 2000 of the ordinary colored blood corpuscles, they may also increase in number in certain diseases of the spleen and liver. *Vanlair* and *Masins** met with an extraordinary case of this kind, in the blood of which (a woman) they found the number of the microcytes increased to such an enormous extent, as to have only two colored blood corpuscles to 100 microcytes. This case induced the authors to apply the particular name of "microcythæmia" to this affection.

Those minute granular colorless elements, the "microzyma" of Béchamp, resulting from the disintegration of colorless blood

*L. c.—fuer das Jahr, 1872, Vol. I., p. 201.

corpuscles, may also, under certain pathological conditions, be found increased in quantity in the blood. They have not unfrequently been found, as well in febrile as in non-febrile diseases, and may give rise to very serious errors, by being mistaken for bacteria. I am much inclined to think that the statements of some physicians, relating to the presence of bacteria in yellow fever blood, were based upon such observations; or, if the bodies observed were bacteria in reality, they certainly entered the blood sometime after it had been removed from the living or dead body.

THE HEART AND LUNGS.

The observations upon these organs worthy of any remark, have already been made in the section treating of their condition as revealed by the autopsy. As regards the heart, it may be added that in those cases in which a fatty degeneration of this organ exists, the degenerative process is very rarely observed to have extended throughout the entire organ, but is mostly found limited to certain portions. The process itself does not consist in a mere infiltration of fat, as is met with in the liver, but in a true fatty metamorphosis of the muscular fibers. As fatty degeneration of the muscular tissue of the heart, however, not unfrequently takes place during the course of other infectious diseases, such as typhus, etc., and even in some other diseases of a chronic character, it cannot be regarded as pathognomonic of yellow fever.*

The *lungs* are, as has been already stated, generally found in a normal condition. In a few exceptional cases, small portions of them are found in a congested, or, also, emphysematous condition. But in consideration of these changes being observed but very rarely, they should be regarded as of an accidental origin, bearing no special relation to yellow fever. It is rather the immunity from the noxious influences of the yellow fever poison which these

*In the report of the "Havanna Yellow Fever Commission of the National Board of Health," it is stated: "that there is no foundation for the opinion that there is a fatty degeneration of the muscular fiber of the heart in yellow fever." This assertion can only be explained upon the supposition that the hearts examined very singularly *happened* to belong to such cases in which the fatty degeneration of this organ was really absent, as it is hardly probable that the type of the "yellow fever at Havanna" should so much differ from that of New Orleans; or that the expert who made the examinations, could have failed to recognize this well-known pathological fact, observed in many cases of this disease.

organs manifest, that may be considered as a characteristic feature of the disease.

THE LIVER.

The pathological changes occurring on the parenchyma of this organ, are so invariably met with in fatal cases of yellow fever, that they may safely be looked upon as a pathognomonic feature of the disease; and they should, therefore, be studied with the greatest care and attention. The close relationship in which the liver stands through its portal circulation with other abdominal organs, renders the latter liable to be involved in almost all the disorders of the former, a complication very frequently occurring in yellow fever. In such cases an approximate idea of the condition of the liver is easily obtained by observing those clinical symptoms indicating the condition of the stomach and intestines, and which may prove of service in the prognosis of the case; for it may well be presumed that the general condition of the patient very nearly corresponds to the extent of the pathological changes taking place in the liver. Thus it is, that in most fatal cases of this disease, the pathological changes revealed by the macroscopical and microscopical post-mortem examinations in the liver, are almost always found to exist in a high degree, a circumstance which leaves little opportunity to the pathologist of studying the initiary stage of the pathological process.

From the hyperæmic condition in which a number of the other organs of the body are found after death, it may also be presumed that the pathological changes observed in the liver are likewise preceded by a state of congestion. Although in all the cases which I examined during the epidemic of 1878, the liver was found affected with fatty infiltration throughout its whole extent, as already mentioned, the above view is sustained by those cases which I observed in previous epidemics, and in which portions of this organ were still found in a state of hyperæmia, preceding that of fatty infiltration or degeneration.

But, while the process of fatty infiltration of the liver is found to have taken place in all fatal cases, and thus forms a typical character of the disease, certain traces of other pathological processes are also discovered to have occurred in this organ in a number of instances, indicating probably a severer form, or other com-

plications of the disease. In the following description of the changes in the parenchyma of the liver, I shall, therefore, begin with that particular condition, observed in the majority of cases, and representing the general type.

When, in these cases, a thin section of the fresh organ is made and examined in water under the microscope, the hepatic cells appear almost completely hidden by larger or smaller fat-globules, and to such an extent as to render the application of ether to the preparation necessary, in order to get a fair view of its component anatomical elements. After the section is cleared up by the ether dissolving the free fat, the hepatic cells will be found more or less distended by a considerable number of fat-globules. The size and quantity of these globules differ in different cells, for while some of the latter may be distended by one very large globule occupying almost the whole interior of the cell, and surrounded by a thin layer of its protoplasm, others may, besides a few larger globules, also contain a more considerable number of smaller ones. The nucleus is in most cells hidden by the fat. If one of the terminal branches of the hepatic veins—intra-lobular—should be contained in the section or fragment under examination, it will frequently be found that the cells in its immediate vicinity present more or less a greenish-brown color, apparently owing to the presence of bile-pigment. Thus far, the examination of the fresh specimen reveals but little beyond the condition of the hepatic cells, and is, therefore, rather unsatisfactory. But when a very thin section of the same liver is made, after having been hardened in a solution of bi-chromate of potassa, or in Mueller's fluid, and sufficiently large for the purpose, a more perfect view, not only of the individual, but also of the relative condition of all the anatomical elements of the whole parenchyma is obtained when examined under the microscope.

In such sections (Figs. 1 and 2) it will be found, as already mentioned, that generally the cells filling up the neighboring capillary meshes of the hepatic venous radicles, present a more or less dark, greenish-brown color, in some cases mixed with a yellowish tint. The same observation is also made, in a number of instances, on the columns of cells bordering on the radicles of the portal vein (inter-lobular.) These colored cells likewise contain

fat-globules, though not as large and as numerous as the uncolored rest, showing that the presence of bile-pigment interfered not with their power of absorbing the fat. The nutmeg appearance of the liver, which was observed in a limited number of cases, as mentioned before—and in which on the contrary the inter-lobular veins were found empty of blood—was probably owing to the coloration of these cells surrounding the vessels.

It is asserted by most pathologists that in the process of fatty infiltration there is no fat deposited outside of the hepatic cells, and that the free fat-globules observed are derived from those cells, cut or torn by the knife in the making of the section. This may be true in cases of phthisis and other chronic exhausting diseases, in which the process of fatty infiltration of the liver is slowly progressing, and sufficient time is afforded to the cells to absorb the fat deposited from the blood into the parenchyma of the organ. In yellow fever, however, where this process frequently arrives at its highest degree in a comparatively short time, and where at the same time—as is true in many cases—the protoplasm of the cells itself degenerates, rendering these minute organs incapable of absorbing the whole of the fat deposited from the blood, it is not at all improbable that a portion of this substance becomes lodged in the interstices of the parenchyma. On the contrary, I may now safely assert that this is a fact, for my careful examination of a large number of well-made and prepared thin sections have not only convinced me of the presence of free fat in the interstices of the parenchyma, but also in those of the connective tissue of the capsule surrounding the organ, and that of the portal vessels (Glisson), or between the latter and the neighboring cells of the hepatic lobules.

In some of the yellow fever livers, the outlines of the hepatic cells appear in the microscopical sections less distinct than in sections made from livers affected with fatty infiltration accompanying other diseases. In the latter, when stained and mounted in Canada balsam, the cells and their nuclei, having absorbed sufficient coloring material, appear very distinct in contrast to the large fat globules which they contain. The hepatic cells of yellow fever livers, on the contrary, do not perfectly absorb the carmine or other coloring materials, in consequence of which their

outlines and nuclei appear—especially when mounted in Canada balsam—rather indistinct, and the fat globules within do not show in strong relief. Besides this, in some places of the section, the cells, being filled with numerous minute fat globules, have entirely lost their absorptive power, and, therefore, remain colorless. A great number of the nuclei also undergo fatty degeneration.

The condition of the blood vessels and bile ducts of the liver can be most advantageously studied in these thin sections. Contrary to what might be expected from the observations of some of the clinical phenomena of yellow fever, or from the occasional meeting by way of autopsy with a liver presenting the so-called nutmeg appearance, the blood vessels are, in many cases, found empty of blood. The capillaries, of which, in very thin sections, a number of meshes are frequently met with empty of cells, present here and there a finely wrinkled appearance, which is, however, owing to minute longitudinal rugae, artificially produced by the action of the hardening fluid, as well as to their complete emptiness; a fine double contour indicates the wall of the vessel, beset by the numerous nuclei, also of normal appearance. I have not succeeded positively in detecting fatty degeneration in the latter, though, in some instances, they presented a fatty luster. The intralobular veins (radicles of the hepatic) were always found empty, and their walls in a normal condition. As regards the coats of the interlobular veins (radicles of the portal), and the interlobular hepatic ducts, they were found in the same condition; only in a number of cases the lumen of the interlobular veins, and of the finer branches of the artery, were filled with blood corpuscles (Fig. 2).

With all the attention which I particularly directed to this subject, *I failed to discover any product of inflammation, either in the form of a multiplication of nuclei, or of a cellular exudate, or, even, of pus;* accordingly, *the theory of an inflammatory condition of the liver in yellow fever, which has formerly been held, and still is, by a number of physicians, proves to be fallacious.*

As regards the multiplication of nuclei in the connective tissue of the capsule of the portal canals, mistakes may easily be made by the unexperienced observer in the examination of preparations

which have previously been hardened in a solution of chromic acid or its salts, as this agent alters the colored blood corpuscles in the radicles of the interlobular veins and their capillaries in such a manner as to resemble small slightly refractive nuclei.

To the condition of the epithelium of the hepatic ducts, also, I directed my special attention, expecting to find perhaps a fatty degeneration of the cells, but though in some of the smaller ducts these elements seemed to present a fatty luster, I would not venture to positively assert it as a fact, as in the other instances they appeared perfectly distinct and normal, and, if cut horizontally, the ducts mostly showed an open lumen. In thin horizontal sections of the larger portal canals, the condition of the larger vessels and ducts, and also of that system of minute simple and racemose (hepatic) glands, connected with and opening into the latter, can be studied with advantage. In examining a number of these sections, I failed to detect anything abnormal, either in the vessels, ducts, or glands; the pathological changes were entirely confined to the anatomical elements of the parenchyma.

Although the process of fatty infiltration extends in most cases throughout the whole hepatic lobule, there are nevertheless certain portions of the latter more affected than others. Thus, it generally appears that the hepatic cells in the immediate vicinity of the intralobular vein are not affected in as high a degree as those of that region of the lobule, situated between the central and peripheral portions, or even the cells bordering on the interlobular veins (Fig. 1.) In thin colored sections, the degree of the infiltration is easily determined by the degree in which the different parts of the lobule are colored. The best colored portion is usually the central, though there are many exceptions to this rule. As mentioned before, there are certain places met with in very thin sections, in which quite a number of capillary meshes are observed almost entirely deprived of their cells. As in the vicinity of such places the hepatic cells are usually very faintly colored, or not all, it appears as if the falling out of the cells from their meshes depended on a degeneration of their protoplasm; besides, uncolored cells ordinarily contain no large fat globules, but are filled with small ones. In such places of the lobule, where the fatty infiltration has taken place in a high

degree, a number of the cells present the so-called seal-ring form (Fig. 1), distended by only one large fat globule, while others may contain two or three.

When examining the first yellow fever livers, at the beginning of the epidemic of 1878, my attention was attracted by a singular appearance of the hepatic cells, resembling a division of the protoplasm of these organs into a number of parts, indicated by shady lines. I have since observed it in many instances, and it really appears as if the granular protoplasm of the whole cell were composed of groups of granules, a supposition rendered very probable by the same observation on hepatic cells undergoing fatty degeneration, in which the same grouping of the minute fat globules is observed. However, this is not the only instance in which I observed this phenomenon, for, a number of years ago, I mentioned the fact that the granular substance in the gray matter of the cerebro-spinal axis consists of an aggregation of minute groups of granules. Even upon the protoplasm of a number of colorless blood corpuscles of man, I have frequently observed this arrangement of the granules.

The pathological changes in the parenchyma of the liver above described are such as I have observed them in the great majority of those cases of yellow fever which I microscopically examined, and from all I know, they may be regarded as typical. In a limited number of cases, however, I observed some additional changes, which either were owing to a severer form of the disease, or to previously existing affections. Thus, I met with two cases in which the coloring of the columns of cells surrounding the intralobular,—or, in some instances, also those surrounding the interlobular veins,—was of a much darker, almost blackish brown, color than in the above cases. Besides, the colored portions or patches were not only confined to the vicinity of the vessels, but moreover met with in other portions of the lobule; in one case, some of these patches presented even a reddish brown. In all other respects, the parenchyma had undergone the same typical changes as above described.

As in all these cases the color was of a greenish or blackish brown, I presume that it depended upon the presence of bile-pigment, though in those few instances where the patch presented

the reddish tint, the latter may have depended on the presence of free hæmoglobin, such as was observed in the following case. Here, namely, the patches were of such a size as to be very easily distinguished by the naked eye, and were confined to the intra-lobular veins, embracing them in their entire length (Fig. 3); they were also sharply defined from the rest of the parenchyma of the lobule. Their color was of a dark golden brown, resembling that of old apoplectic foyers in the cortex cerebri. The capillaries of the discolored portions of the hepatic lobules appeared to be compressed, only small portions of them could be recognized with difficulty. The columns of the cells appeared to have been rendered mis-shapen. In each patch, according to the direction of the section of the lobule, a transverse or longitudinal section of an intra-lobular vein could regularly be seen. Though no blood corpuscles could be discovered in the capillaries, there remains no doubt that the coloration of these portions of the hepatic parenchyma was caused by an extravasation of free hæmoglobin, derived from the colored blood corpuscles, through the walls of the vessels, and finally absorbed by the hepatic cells. Small extravasations of free hæmoglobin are observed here and there in sections of other yellow fever livers, and, as I shall show hereafter, also in other organs; but it is not probable that they often occur to such an extent as in the case last described. Nevertheless, at the commencement of September, 1879, I performed an autopsy upon a fatal case of yellow fever at the Charity Hospital, in which the pathological changes in the parenchyma of the liver were of a much graver character than I had met with before in this disease. The patient, a male, died at 9 o'clock A. M., having vomited a quantity of genuine black vomit three hours before his death; the autopsy was commenced two and a-half hours afterwards. The clinical history of this case, together with the characteristic pathological changes in the kidneys and other organs, as revealed by the microscopical examination, left no doubt about the true character of the disease.

The liver in this case was found rather below the ordinary size, and presented a peculiar aspect. The change of color of the surface—depending on the presence or absence of blood in he intra-lobular and inter-lobular blood-vessels, or on the pres-

ence of fat in the hepatic cells—instead of presenting to the eye a uniformity of character over the whole organ, differed considerably in different parts. A considerable portion of the upper surface of the right lobe had a bluish color, similar to that of an ordinarily congested liver, such as is frequently observed in malarial disease, while in other portions the congestion seemed to be confined to the finest inter-lobular radicles of the portal vein. In these portions, also, the parenchyma showed the pale yellowish tint, though not so distinctly as is usually seen in this disease. By a closer inspection, however, numerous portions in the form of larger and smaller well-defined patches, ranging in size from that of a hepatic lobule to a ten-cent silver coin, or even larger, of a decided yellow color and without traces of congestion, were discovered, especially upon the upper surface. And, furthermore, in the bluish congested portion of the right lobe, dark, bluish or reddish-brown patches, irregular in size and form, and having the appearance of extravasation of blood, were also noticed. A section through one of the patches showed that they extended in an irregular form into the substance of the organ to the extent of about one inch or more. The consistency of this liver was rather below the normal. A microscopical examination of the fresh parenchyma from the vicinity of the dark patches showed the simultaneous existence of atrophy and fatty degeneration of the protoplasm of the hepatic cells, together with a slight fatty infiltration, consisting of large fat globules.

After portions of the organ had been sufficiently hardened in Mueller's fluid, thin sections were made of different portions of the organ, and colored with carmine, the examination of which disclosed the extraordinary changes, to be now described, which had taken place in the parenchyma of this liver.

To get a correct idea of the whole pathological process which had been going on in this liver, would require a minute description of every detail, with a discussion too extensive for our present purpose. Therefore, a brief sketch of the condition in which the parenchyma was found must suffice. At the first glance through the microscope, upon a section through one of the dark bluish patches and made vertically to the surface of the organ, the anatomical elements of all the hepatic lobules contained in the

section appeared to be in a chaos and confusion; for in some places round patches, colored by carmine, were noticed, while in others certain curved columns of cells of a lighter or darker brown, or others uncolored, were also observed. In many places between these portions the cells had disappeared, and through the empty spaces they had left, the field of the microscope could be discovered. The whole parenchyma bordering the inner surface of the general capsule of the upper surface of the liver, contained in the preparation, was, to a considerable depth, found to have assumed a brown color, deepening in shade almost to black, in proportion to the thickness of the section. By repeated examinations with lower and higher powers of a considerable number of sections, I was enabled to study the condition of their individual elements and parts throughout, and, thus far, arrived at the following conclusion. Accordingly, the pathological changes observed in this case, must have been preceded by a hyperæmic condition of the utmost intensity, not only of all the branches of the portal vein, but also, as the examination shows distinctly, of the capillaries of the peripheral portions of the lobules. The intensity of this hyperæmia was such as to induce the hæmoglobin to leave the blood corpuscles, and pass through the walls of the vessels into and between the neighboring cells, a phenomenon which is usually observed in association with a stasis of blood in the vessels. But, besides this extravasation of the coloring material of the blood, a rupture of some of the capillaries must also have occurred, as, in many places, great numbers of blood corpuscles were found located between the atrophied cells. During this state of congestion of the portal veins, the circulation of the blood through the remaining portion of the parenchyma appears to have been mainly carried on by the branches of the hepatic artery, particularly by those arising in the substance of the liver, and passing to the general capsule—rami capsulares arteriosi—which, after extensively anastomosing with each other, give rise to other branches returning into the substance of the organ, and terminate in the capillaries of that portion of the parenchyma situated beneath the capsule. In the sections, these vessels are well displayed, and, as it appears, enlarged in their caliber. As a consequence of the pressure produced by the congested portal veins and

their capillaries, and, furthermore, of the simultaneous diminution of the nutrition of the hepatic cells, atrophy of the protoplasm of the latter occurred, not only of those of the peripheral portion of the lobule, but also of those of the center, surrounding the terminal branches of the hepatic veins. Thus, in examining the central portion left in a number of lobules, it appeared as if these cells consisted entirely of nuclei, each surrounded by only a very thin layer of protoplasm. Notwithstanding this atrophied condition of the hepatic cells, however, the whole mass appeared perfectly colored by the carmine, showing that fatty degeneration had, as yet, not taken place in this portion of the lobule. In most of the lobular centers a transverse, or also a more or less longitudinal section of an intra-lobular vein was seen, the lumen of which, in most cases, was filled with a fibrinous thrombus; the walls of these vessels were thickened and contained numerous small spindled-formed cells. In directing my attention to the peripheral portions of the lobules, I could distinctly recognize the form of the capillary meshes, which presented a lighter or darker brown color, the same as is generally observed on blood vessels distended with blood after having remained for some time in a solution of chromate of potassa and subsequently colored with carmine. But the diameter of the capillaries forming these meshes appeared much increased, owing to being still surrounded by a layer of hepatic cells, though the center of the mesh was more or less empty. With an adequate amplification, the blood corpuscles in the interior of these vessels could be well discerned, together with those which had escaped into the surrounding cells, colored brown by the hæmoglobin escaped from these vessels. But there were also here and there empty meshes met with, of which the atrophied cells surrounding the capillaries were colored only by the carmine, showing that they had not absorbed hæmoglobin, nor undergone fatty degeneration. In other places, similar curved columns of cells were observed, which, lying parallel with the periphery of the lobule, and, separated by empty spaces, appeared in the form of successive strata. It would be difficult to describe the details of the destructive process by which these appearances of the parenchyma were produced, though it is obvious that the empty spaces were formed by the degeneration and

breaking down of the hepatic cells of this portion of the lobule. Many of these columns, also, were uncolored, their cells having undergone fatty degeneration. Finally, in some places, every trace of an arrangement into lobules appeared to be obliterated, the remaining elements representing a confused mass of degenerated cells, broken here and there by an empty space, or by an isolated section of an intra-lobular vein. Sections of portal vessels were also observed, but their structure appeared indistinct and thickened. The greater number of these represented interlobular branches of the hepatic artery, highly colored with carmine. Sometimes, long columns of carmine-colored, though atrophied, cells were encountered, which, as I suppose, consisted of an arterial branch, surrounded by a layer of cells having, perhaps, received their nourishment from this vessel, preventing their degeneration.

From the above it will be seen that the relative pathological condition in which the anatomical elements of the lobules of the atrophied portions of this liver were found, does not exactly correspond with the condition of the same elements observed in the so-called yellow atrophy of this organ. In the fatty degeneration met with in both instances, as well as in some other minor points, however, a certain resemblance evidently exists. The view, entertained by *Rindfleisch*, that yellow atrophy depended upon an infectious poison, may be true in the case above described.

As regards the other less congested portions of this liver, which formed the greater part of the organ, they were found in the same condition as has been described as "typical" of yellow fever. However, the fatty metamorphosis, observed in this case, was a true fatty degeneration of the hepatic cells; all other elements, as capillary and other vessels, etc., were in a perfectly normal condition; in some form of these capillaries blood corpuscles were observed. There was no atrophy of the cells, they had retained their normal size, but were filled with minute fat globules, which exhibited very distinctly the arrangement in minute groups of which I have spoken above. Only in a comparatively small number of these cells, two or three larger fat globules—though not very large—were observed.

In connection with the pathological changes met in the paren-

chyma of this liver, I cannot forbear to mention a singular discovery which I made in sections made from those dark bluish portions, and relating to the presence of the mycelium of a very minute parasitic fungus, which extended its numerous filaments throughout the parenchyma of this particular portion of the liver. Not being, myself, an enthusiastic supporter of the so-called germ theory, I would have passed this observation without mention, if the circumstances connected with the presence of this fungus in such an unusual place, would clearly show that the minute plant found its way into the liver accidentally after death. But this is not the case, as the chances for such an accident were quite limited. The autopsy was made two and a half hours after death. The liver, being one of the first organs removed from the body, was put into a basin, and covered with large pieces of ice. There it remained about two hours, when certain parts of it were cut out, and, after being cut again into small cubes of about one to one and a quarter inch diameter, were put, together with pieces of kidney and other organs, into a sufficient quantity of Mueller's liquid. On the second day after, the fluid was removed, and the same precaution was twice more taken before the pieces were hardened enough to be transferred into a fifty per cent. mixture of alcohol and water. A few days after the pieces had been put in Mueller's liquid, I examined some small sections made by hand from one of the pieces belonging to that dark bluish portion of the liver above described, and observed, especially at the thin edges of the section, the fungus consisting of a mature spore with two germinating filaments arising from it at opposite poles. Each filament was bordered by a fine double contour and its interior filled up by a distinct row of granules. At the first sight of these elements, I must confess that I knew not what to make of them, until I met with a bifurcating filament, and observing, furthermore, a peculiar luster on some of the granules in the interior, I began to suspect them to be of a fungous nature. Though these elements might be confounded with long spindle-form cells, a closer examination would easily show a difference existing in the details of both. When the pieces were sufficiently hardened, I was enabled to study the further details of this fungus on the thin sections made by the aid of the microtome. From

these examinations, I found that it belonged to one of those families the most simple in construction. The elements which I first observed along the edges of the section, or floating about, represented germinating spores, each of which had given origin to two or three filaments of about four, five, or six times the length of the former. A sporangium was formed upon the terminal points of these filaments, containing about two or three sporules, the discharge of which I witnessed in a number of instances, as also the detachment of the sporangium from the filament. In many specimens, the filaments presented a number of varicosities in their course, sometimes only on one side, almost resembling suckers; in some of them the base was much thicker than the point, and filled with granular protoplasm which had entered from the mother spore; I have also seen the disintegration of the latter. In other instances, again, I observed secondary filaments arising from the first; and likewise bearing a sporangium, or even communicating with a filament of a mother spore. Not being sufficiently versed in systematic mycology, I have failed to classify this fungus, though I have consulted some standard works on the subject. Judging from its mode of fructification, however, it seems to resemble more the Peronospores than any other family.

The presence of this fungus in the parenchyma of this liver, of course, cannot be regarded as an unusual phenomenon, for it might be supposed that it was primarily contained in the hardening fluid, whence it made its way into the pieces of liver. But, then, it would most likely also have invaded all other pieces, not only of the same liver, but also of the other organs contained in the same jar. This, however, was not the case, for, with the exception of the dark bluish atrophied portions infected by the fungus, no trace of the latter could be discovered in those pieces of the same liver affected only by fatty degeneration, or in the pieces belonging to other organs. The only explanation, therefore, left to account for the presence of the fungus in the place mentioned, is, that it was primarily contained in the Mueller's fluid—though this was freshly prepared—and that it selected particularly these disorganized atrophied portions of liver as the best nidus for its development. Whether it was possible that the fungus, or its spores, penetrated by some way or other into the portal circula-

tion, and finally became lodged in some of the interlobular veins, giving rise to the intense congestion and ensuing atrophy of the parts above described, I must leave to the germ theorists to decide. At any rate, I regard the observation sufficiently interesting to be worthy of report, although I entertain not the slightest idea of its standing in any relation with the pathology of yellow fever.

The pathological changes in the parenchyma of the liver, characteristic of yellow fever, as described in the preceding pages, are equally observed in cases where this disease supervened upon another, accompanied by organic changes in the tissues of the same organ, a coincidence which may specially occur in cases of cirrhosis of the liver. An illustrative case of this kind, sufficiently interesting to be cited, I had an opportunity to observe and to examine after death during the epidemic of 1878. A young man of small stature and delicate build, an Italian, was admitted to one of the wards of the Charity Hospital. As I was present at the time, I had occasion to examine him myself. Finding him in an unusual state of nervous exhaustion—for he could hardly walk—with an intensely jaundiced skin, and a very feeble pulse, but otherwise—as could also be gathered from his history—no symptoms of yellow fever about him, I regarded the case as one of chronic malarial fever. As he could speak neither English nor French, himself, it was ascertained by an interpreter that he had been sick for two months, and had been staying with the "Spanish Colony,"—as a portion of the Spanish and Italian population of New Orleans, who, during the epidemic, had left the city to encamp several miles above near the bank of the Mississippi, was called,—whence he came to the hospital. Though at one time slightly improving from his nervous exhaustion, this patient eventually contracted the yellow fever in the hospital, from which he died. The autopsy revealed the following condition of the organs. Not only the skin, but all other tissues in the interior of the body were intensely yellow throughout. The lungs, with the exception of some old slight adhesions to the walls of the thorax, presented a healthy appearance. The heart, also, appeared normal, though the fluid contained in the pericardium was yellow. The liver was enlarged, hard, and granular, show-

ing its cirrhosed condition by gritting under the knife when cut; its capsule was thickened, and its vessels and bile ducts were congested, bile issuing from the cut ends of the latter. The walls of the gall bladder were œdematous. As the patient had thrown up black vomit not long before he died, the stomach was found empty, though its mucous membrane presented that condition of congestion peculiar to yellow fever. The spleen was greatly enlarged, five or six times the bulk of a normal spleen, and also gritted under the knife when cut. The pulp was of a dark color, while the trabeculæ appeared white and enlarged; the capsule of the organ was thickened. The peritoneum covering the diaphragm, liver, stomach, spleen, pancreas and transverse colon, was much thickened, having glued these organs to each other, thus showing that a chronic peritonitis had been existing. The kidneys were greatly enlarged and much congested. The veins of the intestines were filled with blood, though otherwise these organs had a normal appearance. In the cranial cavity the dura mater was yellow, but otherwise healthy, though the vessels of the pia mater were much congested; the arachnoid membrane was found opaque in some places. The cerebral and basilar arteries with their branches were filled with blood. The substance of the brain appeared œdematous, and the ventricles were filled with a yellow fluid. The corpora striata appeared rather pale, while the thalami optici were very white; the superficial vessels of these bodies were filled with blood. In a section of the cerebral hemispheres, the medullary substance appeared very white, the cortical layer pale gray.

The microscopical examination of thin sections of the liver showed that the cirrhosis in this case existed in a considerably high degree. The capsule of Glisson, undergoing the usual hyperplastic metamorphosis, represented now a connective tissue of a coarser and stiffer appearance, than when in its normal condition, though no proliferation of nuclei or spindle cells could any more be observed. The cicatricial tissue formed had encroached upon the lobules, and, in many places, extended into their interior, separating portions of them, which, in the section, appeared in the form of small islands. The hepatic cells at the periphery of the lobules presented a greenish brown color, while minute

masses of black pigment were here and there observed deposited between the hepatic cells. The central portions of the lobules, or, also, the portions intermediate between these and the peripheral, were invariably found affected with fatty infiltration (Fig. 4.) This condition existed in a considerably high degree, for most of the cells of the affected portions presented the seal-ring form. In the newly formed tissue of the capsule of the portal vessels the remains of blood vessels were also observed.

Very frequently, especially in cases of drunkards, cirrhosis of the liver is found associated with fatty infiltration. In these cases, however, as in those of ordinary fatty infiltration without cirrhosis, the infiltratory process almost always commences in the hepatic cells at the periphery of the lobule, while in yellow fever, as we have seen, the process appears to commence, or to attain at least its highest degree, near the center, or in portions of the lobule situated intermediate between the latter and the periphery.

[TO BE CONTINUED.]

ARTICLE III.

"SOME POINTS IN DIPHTHERIA." By A. T. CONLEY, M.D., Cannon Falls, Minn.

In the April number of THE JOURNAL AND EXAMINER is a paper by Dr. C. J. Lewis on "Some Points in Diphtheria." During nine months of last year I saw and treated over one hundred cases of diphtheria, and from my experience I must take issue with the Doctor on one or two of his points. I am fully aware that different epidemics of that disease differ widely in many symptoms, and this may be one reason that his experience is so different from mine.

The first point I wish to notice is this: The Doctor says, "I am of the opinion that diphtheria is not produced by germs, nor do I believe it to be contagious." Whether diphtheria or any other contagious disease is caused by germs, is not the point I wish to discuss, for at the best, in our present state of research and knowledge, we have little else but fine-spun theories. But

that there is a specific cause for each and all of the so-called contagious diseases, seems reasonable from the nature of things, and that this specific cause, whatever it is, can be and is communicated from one person to another, is as clearly proven as any other fact that rests on observation and reason; and that diphtheria conducts itself like other contagious diseases, observation and experience fully attest. One illustration from many I could give will suffice. Last fall in one of the departments of our public school a little girl came down with diphtheria and was kept in school all day. All the schools were closed from that day, but in less than a week eight other cases came down, and all children who were at school the day the little girl came down, and *all in the same department;* and though there were four other departments in the same building, not a child in any of them came down.

I have further noticed that where one came down with the disease in a family of children, every other child in the family was almost invariably sure to have it; and, further, where strict quarantine was enforced among the *well* and sick alike, that is, where children, though well, were kept strictly at home, *in no single case did such children have the disease.* Another point where my observations seem to differ from other observers is this: Though we had about two hundred cases in our town and vicinity, other physicians noting carefully with myself, in no case has the disease occurred twice in the same individual.

I have gone through epidemics of scarlet fever and other contagious diseases, and I cannot avoid the conclusion that diphtheria, for children, is the most contagious disease I have ever seen, excepting, perhaps, small-pox.

The Doctor gives a very condensed history of two cases. From the facts given I cannot see how he could positively diagnosticate diphtheria. To me it would have been probable had the disease been in the family and other cases been better marked. I am sure I never saw a case result from *cold.*

The second point: The Doctor says, "To me diphtheria is a pyrexia—an inflammatory fever, closely allied to rheumatism." Admitting for the moment that the argument adduced is correct, would not the same line of reasoning prove that scarlet fever or

croup are inflammatory fevers closely allied to rheumatism? Again, the Doctor tells us that "pain is a prominent symptom in diphtheria." "That the pain caused in the fauces by attempts to swallow liquids is out of all proportion to the apparent local lesion." These statements are exactly the opposite of my experience. I do not remember to have ever heard a child crying with pain or show in any way that it was suffering severe pain. I have seen the membrane thick and heavy, and so much pushed up into the mouth that it could be seen if the mouth were opened ever so little. In fact the membrane had the appearance, as near as anything I can compare it to, of a pancake rolled into a cylinder and thrust down the throat; and yet medicine, water and milk could be swallowed with an ease that to me was amazing. Occasionally there was a case of paralysis of the muscles of deglutition; stiffness of the neck and swelling of the glands were pretty constant symptoms. Again, the Doctor says, "Epidemics of diphtheria follow periods when rheumatism has prevailed." This was certainly not the case with us; for years rheumatism has not been a prominent disease in these parts, and yet the epidemic of diphtheria has been terribly severe. Rheumatism seldom attacks children under five years old. In our epidemic more children under five years had diphtheria than over that age. The majority of cases of rheumatism occur between the ages of 15 and 30. I have seen but a very few cases of diphtheria in persons over 15 years of age. Then in rheumatism we have the rheumatic diathesis, and it is often hereditary. Where is our diphtheretic diathesis and heredity? Rheumatism, though a very painful disease, is seldom fatal, though it may last for weeks and months. Diphtheria, not a painful disease, is very fatal, often proving so in a very few days. I fail to see the close alliance between diphtheria and rheumatism.

One feature in some of my cases was that the little patients did not complain much in any way, and were often up and dressed until a short time before death. I will give one case in point. August 2, 1880, call in the country to see a little Swede girl, five years old. Found my patient running around the house; tonsils and fauces heavily covered with membrane; glands of the neck much swollen; a profuse discharge from the

nose; very offensive breath; vomiting a little; no appetite; dull and congested countenance; pulse 120; bowels and kidneys reported normal by the parents. After prescribing for this patient, and going to my buggy, some fifteen rods from the house, I found, on looking round, my patient with half a dozen other children, at my heels. This child died in less than 48 hours, without obstruction to respiration.

This is not an exceptional case. Where children had the best of care and attention they often showed a disposition to be up and would play if allowed to. This occurred often in cases that run a rapid course and terminated fatally in five or six days. I frequently had much difficulty to convince my neighboring medical friends whom I called in, that these cases were in danger.

Other cases, however, were depressed from the first and the countenance had a dull leaden hue, the eyes were languid and expressionless, taking but little interest or notice of anything, but always answering when spoken to.

In discussing this subject I have aimed to give observations and symptoms and not theories. I have no pet theories to advance either as to the ætiology or treatment of diphtheria. I have no faith in the sulphites. I have used various atomizers with carbolic acid, sulphite of sodium, bi-carbonate of sodium, lime water, etc.; results not very satisfactory. Quinia and stimulants used often and early I do believe in. Monsell's solution with carbolic acid applied carefully to the membrane, I am sure is a good remedy, also cold water applied early to the neck. Chlorate of potassium I like, used in the first stages. Tincture chloride of iron in my hands has not come up to my expectations. I believe the best and surest remedy in the world is to keep the children entirely away from the disease.

April 30, 1881.

DR. VON NUSSBAUM, of Munich, has performed his three hundredth ovariotomy.—*British Medical Journal.*

SIR WILLIAM JENNER, K.C.B., F.R.S., was elected President of the Royal College of Physicians, April 11, in the room of Sir J. Risdon Bennett, M.D., F.R.S.—*Ibid.*

Society Reports.

ARTICLE IV.

THE CHICAGO BIOLOGICAL SOCIETY.

Stated meeting May 4, 1881. Dr. W. S. Haines, President, in the chair.

Dr. Roswell Park read a paper on the

SURGICAL ANATOMY OF THE SHEATHS OF THE PALMAR TENDONS.

Considering the frequency of injuries about the hands, one is disappointed to find how its anatomy has been poorly described by English anatomists. The best description of the Palmar Tendons has been written by Gosselin, and in this country by Connor, of Cincinnati.

After giving the anatomy of the tendons as commonly described, Dr. Park referred to the palmar bursa in which they glide. This bursa generally extends to the thumb and little finger, but the three other fingers have a bursa by themselves. This explains how phlegmonous inflammations of the thumb or little finger will rapidly extend through that synovial sac to the wrist and to the fore-arm. This bursa does not contain clear synovium, but cellular fibers also. It is best demonstrated by inflating it through its origin at the wrist. In some exceptional cases the thumb or the little finger have a separate bursa.

In cases of deep-seated inflammations in the hand, hot applications should be used, and as soon as suppuration has taken place the patient should be anæsthetized, the parts carefully dissected, cutting longitudinally over the middle of the metacarpal phalanges, and letting out the pus.

EXHIBITION OF SPECIMENS.

Dr. Park exhibited before the Society the various joints of the human body with all the ligaments attached, and perfectly flexible and odorless. They had stood exposed to the air for six months, and they were as soft and elastic as in fresh subjects. All the members present, some of whom were graduates of European colleges, admitted that they had never seen anything of the kind—it was a wonderful achievement in anatomical preparations. The sheaths of the tendons, with some of the flexor muscles, were preserved in the same manner. These preparations, at first perfectly white, had become yellowish-brown, but Dr. Park thought that was the only change that they could undergo, and that they would remain in the present state for years. His process of preparation was this:

The joints were dissected soon after death, then soaked in water for three weeks. They were now soaked in the following solution:

℞ Saltpetre..... 1 part.
Sugar..... 2 parts.
Glycerine..... 16 parts.

Methilic alcohol, enough to dissolve these ingredients.

Very little is used. After remaining a few weeks in that liquid, the joints were flexible and odorless. He had used benzine to destroy the fat in some cases.

Dr. Park had devoted many months to these researches, which will be highly satisfactory to every anatomist.

Dr. E. Fletcher Ingals read an abstract of a paper on

LARYNGEAL GROWTHS.

Up to twenty years ago, there had not been over seventy cases of this kind discovered, and those had, most of them, been found in the dead. But since that time thousands of cases had been found in the living. All sorts of tumors may be found in the larynx that are found elsewhere in the body, about in the following proportion: 75 per cent. are papillar growths, 25 per cent. fibrous, the rest were fibro-cellular, adenoid, etc., and malignant growths. It had been his misfortune to see more than his share

of this last class, for he had treated three cases, which will be found with the following:

Case I. A man 63 years of age had a fibroid tumor at the upper part of the trachea. Had experienced hoarseness for seven years. Had been worse for three months. Difficulty of speech and dyspnœa. The tumor was a large pyriform growth, pressing on the vocal cords, 8 mm. in diameter. Patient did not consent to an operation.

II. In the case of a physician, a small tumor had grown on the left ventricular band, the size of a split pea, hiding the left vocal cord. A first attempt at removal did not succeed. Another trial will soon be made.

III. A. B. A sessile papilloma on the lower surface of left vocal cord, 5 mm. in diameter. It was removed by McKinsie's forceps, and patient was cured.

IV. A man 69 years old. A growth was found in the larynx, which had caused hoarseness, severe dyspnœa, and other symptoms, for ten years. A small piece of the tumor had been removed and examined under the microscope. It was pronounced malignant. It was removed repeatedly during some weeks, but a large swelling formed in the arytenoid fold, which sloughed, but could not be removed. Patient refused to have tracheotomy performed. He died after a few days.

V. A female, æt. 25. Had had polypi in the larynx ten years ago in Germany, where a surgeon had removed them. A few months ago she had the sensation of a bolus in the throat. On examination a growth the size of a small pea was found attached to one of the vocal cords. It was destroyed by nitrate of silver. A larger tumor was also fouud in her larynx, and a part of it removed.

VI. M. E. Began to experience some dyspnœa some months ago. The vocal cords were congested. A pedunculated papillary growth $\frac{1}{2}$ inch long hung in the sub-glottic space, having its point of attachment at the upper part of the posterior commissure of the vocal cord. It has not yet been removed.

VII. In this case a tumor the size of a pea had been removed from the right vocal cord, followed by perfect recovery.

VIII. A male, æt. 24, had had chronic laryngitis. Had

pleurisy three months ago. Had also had pneumonia and remittent fever. Patient was probably tubercular. A small papillary growth of the vocal cords was destroyed with carbolic acid and solution of morphia. Tannic acid and glycerine were also applied, and the nitrate of silver used. Inhalations of tr. of benzoine were given, and cod liver oil administered. The right lung was affected at the apex. Patient gained three pounds while under treatment. He afterward went to Texas, where he died suddenly three weeks ago.

IX. T. N., æt. fifty-nine, had complained of pain and dyspnœa for four months. A nodular growth 2 mm. in size was found attached to the right ventricular band, the vocal cords not being involved. It was not removed. Two months later ulceration of the throat took place, and Dr. Ingals saw the patient when he had been unable to swallow for ten days on account of regurgitation into the larynx. It was evidently a cancer. The suffering was great. The Doctor did not think excision of the larynx should be performed in such cases, and he had met a few other ones, because the life is not likely to be prolonged thereby. Dr. Ingals said that the removal of growths from the larynx is not painful, but that it is very uncomfortable to the patient. A warm compress was held around the neck for thirty-six hours after each operation, to prevent inflammation. There was no risk of tearing the vocal cords in removing small growths. He had been so unfortunate as to tear the healthy mucous membrane, where it was not intended, once, but no ill results occurred. Papilloma should not be removed where they seem harmless, because of their liability to turn into malignant growths.

X. A large malignant growth on the side of the larynx came under his observation. He has delayed its removal till now, because there will be hæmorrhage, which he will control with a peculiar electrode which he has contrived.

Dr. Ingals does not believe, as some do, that laryngeal growths depend on syphilis or tuberculosis. H. D. V.

ARTICLE V.

CHICAGO MEDICAL SOCIETY.

Stated meeting, May 2. Dr. E. Ingals, President, in the chair.

Dr. G. W. Earle read the paper of the evening on

ROETHELN, OR GERMAN MEASLES.

of which the following is an abstract:

"During the months of March and April we have been having a disease characterized by mild coryza, redness and suffusion of eyes, very slight fever, enlargement of the glands of the neck, followed with a papular eruption. These red spots are smaller than in measles and larger than in scarlet fever, and are entirely unlike variolous diseases. It is contagious, and in all its main features corresponds to what the Germans call Rötheln." Follows the history of twelve typical cases.

"Probably this disease is the one described as early as 1492 by Ali Abbas of Venice. As far back as the middle of the last century the German physicians wrote of an acute exanthem closely resembling this disease, and called it Rubeola. About that time the French and the English doctors called this disease Roseola. About half the authors and writers believe the disease under consideration to be either mild scarlatina, or measles, or both; and the other half believe it to be a separate affection. If this be an independent disease, as I believe it is, the first thing we want is a name.

"We should not call it Rötheln, because this is the name applied to Rubeola, and Rubeola is the name applied by many to measles. It is not roseola, for that is not contagious (the disease I am speaking about is certainly mildly contagious). It is manifestly improper to designate it German Measles, for this new progeny may first have seen the light on French or English soil.

ETIOLOGY.

"That this disease is both contagious and epidemic, I have no doubt. What is the contagious principle? We must say as we do in regard to scarlatina and measles, that we know nothing *per se* of this element. Of its predisposing causes we may be able to say something.

"*Its Relation to Miasmata.*—One observer has remarked that after great moisture, when the air is charged with impurities, the disease seems to prevail. The peculiar winter, from which we have emerged, may have had something to do as a cause of our present epidemic.

"*Incubation.*—This is from two and one-half to three weeks, according to Emminghaus. According to my experience, it is, with considerable regularity, seventeen days.

"*Age.*—More adults seem to be affected during our present epidemic than in those described by former writers. Infancy seems to be nearly exempt.

"*Social Position.*—The rich and poor alike seem to be liable to it.

SYMPTOMS AND HISTORY.

"Among children I have not been able to notice any prodromal period. In adults it is frequently present, and consists of languor, chilliness, pain in the muscles, surface of body feels flushed to patient, and in one of the cases a dizzy sensation has been experienced. In children, the first thing noticed will be the eruption, although in a few the eyes are somewhat red, and sneezing may precede the eruption. The coryza is not at all severe, and the conjunctival trouble has not in any of my cases except one amounted to photophobia.

"The pharynx is frequently red, not intensely so, and sometimes the redness is not diffused. The glands of the neck are swollen in about all the cases. The tonsils in one adult were considerably enlarged, and in one case a gland (the post auricular) was very largely swollen for days. The exanthem may be preceded a few hours by a redness of the forehead and cheeks—really an erythema—and then the spots make their appearance. I have noticed the eruption at first on the neck or chest, from which it spreads to other parts of the body.

"*Temperature.*—In the majority of cases it is normal. In a few cases, and especially in adults, when the pain in the head and pharynx is great, it is slightly increased. In one case it attained 104.

"*Pulse.*—The pulse in a patient seven years old, counted while I am dictating these words, is 90. Indeed, the symptoms

in children are so mild that they hardly ever take to their beds, and some boys do not discontinue their play out-doors.

"*Complications.*—Pneumonia has taken place in three or four cases in 120. Aphthæ has followed in a few cases, and rheumatism in two or three cases. It was very slight. There has been a tendency to gastro-intestinal irritation in a few cases. Pain in the bowels continued for several days in one patient. I think there is a decided tendency to urticaria, and in one or two cases a pemphigus has been noticed, which, however, remained only a few hours. Slight malarial troubles may, and frequently do complicate the disease, especially in this climate. I have noticed a slight furfuraceous detachment in a few cases, especially about the nose. There is no desquamation. Two *relapses* have occurred in my practice—one at the end of the third day, the other after twenty-one days. The relapse in this case was attended with considerable pain.

DIAGNOSIS.

"This is the most important question in regard to the whole subject. It is liable to be confounded with variola or varioloid, scarlatina, erythema, urticaria, rubeola, and roseola. Not a few cases have in this epidemic been taken for the erythematous or papular stage which sometimes is seen in *small-pox*. The want of severe head and back-ache, and the rapid disappearance of the eruption in a few hours, dispel any doubts of this character. The want of sore throat, the mild fever, the papular eruption instead of a rash differentiates it from *scarlatina*. In *measles* a severe bronchitis is invariably present for a few days, and there is a rise in the temperature from 102° to 104°; the eruption is about three days in spreading over the body, and when fully developed is much larger than in the disease we are considering. The coryza and photophobia are severe in measles; they are mild in this disease, whose incubation is from seventeen to twenty days, while it is nine days in measles. An erythematous blush is present, usually confined to a small area, as the forehead or one cheek. *Roseola*, more than any other disease, will give trouble in diagnosis. Roseola is said to be sometimes epidemic, but no one has claimed for it the element of contagion. Rötheln has a

period of incubation, and is markedly contagious. Roseola has a prodromal period. Rötheln has but few, if any, premonitory symptoms.

RECAPITULATION.

We have, then, a disease occupying about the same relation to measles and scarlatina that varicella does to the variolous diseases. It is a specific, acute exanthem, beginning by usually slight coryza and suffusion of the eyes, followed by a papular eruption, enlargement of cervical glands. The *treatment* should be conducted on general principles."

DISCUSSION.

Dr. F. M. Weller had seen some severe cases of this disease in Evanston in 1873. A few of them died. Dr. J. S. Jewell had seen the cases in consultation. A feature of his treatment was to expose a mixture of two parts of carbolic acid with one of camphor in a dish on the floor of the sick-room. He claimed this prevented the disease spreading to other members of the family.

Dr. G. C. Paoli said that, although he had seen several hundred cases of rötheln, he had never known one to die of that disease, and that cases of death could always be referred to scarlatina or some other disease present in the same locality. This disease had been described by Arabian authors long ago, but it was long before it was differentiated from scarlatina. A peculiarity of rötheln is that the eruption always commences on the face or forehead. The absence of of albuminuria would help the diagnosis in cases where scarlatina might be present.

Dr. Roswell Park is just now engaged in the management of more than a hundred cases in the Orphan Asylum, where the disease has occurred as an epidemic. An epidemic of measles had happened in the same institution a year ago. His observations agreed with those of Dr. Earle. But he had noticed that the eruption sometimes appeared first at the roof of the mouth. There was a mild sore throat in most of the cases; twenty per cent. had bronchitis; several had photophobia. He had not seen any cases of intestinal trouble. A young woman affected with rötheln had complained of pain in the legs and back. Perhaps

it depended on malaria. The spots of the eruption were a millimeter in diameter. Three or four cases exposed to cold had had pneumonia or severe bronchitis. He had not met any deaths. His treatment consisted of aconite, bromides to relieve the headache, laxatives when required, and co. syrup of squills to relieve the bronchitis. Most of his cases began as a bronchial trouble. The Society adjourned. H. D. V.

ARTICLE VI.

WEST CHICAGO MEDICAL SOCIETY.

Stated meeting, May 9. Dr. Norman Bridge, President, in the chair.

Mr. S. C. Stanton read an abstract of a paper on

NERVE STRETCHING,

by Drs. Lee and Fenger.

The operation had been first performed by Billroth, unintentionally, within the last decade, but Dr. von Nussbaum, of Munich, was the first to perform it for the relief of pain. It had now been tried all over the world, and in the following diseases: Idiopathic sciatica, secondary sciatica, neuralgia of the fifth pair, mimic spasms, neuralgia of the accessory nerve of Willis, nervous spasms of the extremities, epilepsy, traumatic paralysis, tetanus, and locomotor ataxia. Eight cases of nerve stretching in idiopathic sciatica were on record, almost all successful. The force exercised must be sufficient to cause a sensation of something giving way in the nerve. The force calculated to break the sciatic nerve was 130 pounds. In seven cases of secondary sciatica with disease of the spinal cord, the operation had failed in most of them.

Six successful cases in nine of neuralgia of the fifth pair had been recorded. The supra-orbital, the infra-orbital, and the inferior dental had been stretched. In eleven cases of neuralgia following injuries to various nerves, eight cures had resulted. Esmarch successfully stretched the nerves for the cure of neuralgia in stumps of amputated limbs. In five cases of mimic spasm, in which the nerve was stretched, the trouble disappeared. In

epilepsy, paralysis, and tetanus, the results were not very satisfactory. Of twenty-one cases of tetanus operated on, nine had recovered, and twelve died. Dr. Fenger remarked that a greater number of the successful cases had been recorded than of the failures; and we should not overlook the fact that in tetanus remedies had been administered also.

Nerve stretching should be done with antiseptic precautions, but the setting in of erysipelas, and the sloughing of the wound, which happened in a few cases, did not prevent the relief of pain in the nerves stretched. Taking everything into consideration, this operation is safer and more satisfactory than section or amputation of the nerves.

In some doubtful cases of locomotor ataxia, with pain, the latter had been relieved, and co-ordination returned. In one of these, Esmarch stretched the axillary nerves, and the locomotor ataxia disappeared. Only the painful nerves should be stretched. Two cases of anæsthetic leprosy, in seven, had been benefited. The modus operandi of that new surgical measure is very obscure, for a want of experiments on the lower animals.

As these various cases showed, the operation had given favorable results in a variety of wholly different diseases. There was no danger in its performance, no neuritis, nor any neuralgic pain had ever followed it. It is supposed that the axis cylinder of the nerves are disintegrated, and the nerve fibers have been found in a granular condition after stretching. Paralysis has followed in some cases.

Dr. Fenger said it was not impossible that after a number of years the present operation might be looked upon as a surgical curiosity, but as it was useful in many cases, and harmless at most, it should be tried extensively.

ELECTION OF OFFICERS.

Dr. H. M. Lyman, the founder of this society, was elected President, Dr. Mary G. Mergler Vice-President, and Dr. R. S. Hall was re-elected Secretary. Censors: Drs. Norman Bridge and E. L. Holmes. H. D. V.

Foreign Correspondence.

ARTICLE VI.

VIENNA, March 26, 1881.

EDITORS CHICAGO MEDICAL JOURNAL AND EXAMINER:—I sent you last month a description of the first successful resection of the stomach for cancer of the pylorus, performed Jan. 29, by Billroth. At that time the recovery of the patient, though probable, was by no means assured. The subsequent history of the case, however, has justified the most sanguine anticipations—not a single unfavorable symptom occurred; the patient was in two weeks discharged recovered, and has since remained quite well.

Encouraged by this success Billroth repeated the operation February 28, on a very anæmic woman, 39 years old, who had suffered from gastric derangement for seven months, and had presented the usual symptoms of commencing cancer of the pylorus during the previous seven weeks. In this case two difficulties were encountered which rendered the operation decidedly more formidable—first, a dilatation of the stomach, whereby the preliminary cleansing of the organ was rendered impossible; second, an adhesion of the stomach to the parietal peritoneum (as revealed by the exploratory incision) in consequence of ulceration and adhesive peritonitis. The operation was in general upon the same plan as the first, yet complicated by the sponging out of the gastric contents, and by the removal of the cancerous infiltration in the abdominal wall at the seat of ulceration from the stomach. The portion of stomach excised was 10 ctm. long and 6 wide—a medullary cancer. Fifty-eight stitches were made in the stomach and duodenum, the operation lasting two and three quarters hours. During the first day after the operation, ice only

was administered per orem, sour milk and ice the second day; nourishing clysters were given during the entire period. The patient vomited once on the second day, but on the third and succeeding days constantly. The stomach could be induced to retain nothing whatever more than three or four hours; the vomit contained acid, gastric juice and bile. As this condition of things, which Billroth ascribed, 1st, to a mechanical obstacle (knicking) to the passage of contents from the dilated stomach into the duodenum; and, 2d, to imperfect contractions of the stomach in consequence of dilatation and of adhesions to the abdominal wall at point of excision of latter, threatened to destroy the patient by inanition, Billroth decided to reopen the wound, a decision which he carried into execution on the seventh day after the operation. His fears were realized—a very sharp angle existed at the line of junction of the duodenum with the enormously dilated stomach, and adhesion existed with the diaphragm above as well as with the abdominal wall in front. Billroth sewed the edges of the stomach to the abdominal wall, and introduced a drainage-tube as large as the finger into the abdomen for purposes of nutrition. The patient died the next (8th) day of inanition. The section proved that no peritonitis had at any time existed.

On the 12th of March Billroth performed the third resection of the stomach, this time on a 36-year old cachectic woman. In order to avoid the danger of an angle at the point of junction, he sewed the duodenum to the stomach at a point low down on the greater curvature, hoping thus to facilitate the exit of the gastric contents. The value of this measure was not, however, ascertained, since the patient died twelve hours later of shock.

Although the present percentage is not very encouraging, Billroth is evidently determined to test the operation further, believing that as he learns the various modifications required in the operation by the various conditions of the organs concerned, a greater degree of success can be expected. After his return from his present vacation (about May 1) we shall probably hear of further cases.

WM. T. BELFIELD.

Domestic Correspondence.

ARTICLE VIII.

NEW YORK LETTER.

EDITORS CHICAGO JOURNAL AND EXAMINER:—I wrote in my last letter that the subject of mesmerism or trance had been assuming a good deal of prominence in various circles here. Of course the daily press takes up the matter, and makes as much sensation as possible out of a subject which contains plenty of material for exciting astonishment. There has been a good deal of exaggeration of the importance of this newly studied condition, but there have also been some uncalled-for attempts at ignoring it altogether. There can be no doubt of the reality of trance phenomena. Exactly how much they develop in ordinary life it is impossible yet to say. As far as the value of it to medical or surgical therapeutics is concerned, we may be quite sure it will amount to little in the hands of regular practitioners. We do know, however, that it is a powerful agent for effecting good and bad results with charlatans. I heard, only a little while ago, of a certain "doctor" who has an office on Sixth avenue, and who cures "by the laying on of hands." His method is to make the patient look fixedly at him while he makes certain passes over the head and face. He is reputed to have made many marvellous cures. During two hours in the morning he treats the poor, charging nothing. His office is then crowded with the credulous rich. Some time ago every one would have considered him not only an impostor, but one whose cures were all as imaginary as his pretensions were absurd. Now it can easily be understood that he probably does a good deal of his work by throwing the patients into a trance or trancoidal condition. The class of persons who visit him are just the kind that would be most sus-

ceptible. The methods employed by the "doctor" are also just those calculated to hypnotize the patients. This particular charlatan, therefore, only does what has been done here, experimentally, by regular practitioners.

Regarding the scientific value of trance, it is claimed that a study of it will throw much light upon some problems in physiology and psychology. One of the most interesting facts in connection with the former subject is the entire abolition of vertigo in the hypnotized subjects. Let any one fix his eye at a point on the ceiling; then turn around three or four times; then try to walk off in any direction. He will be sure either to stumble or fall. But hypnotize even an untrained subject, fix his attention on the ceiling in the same way, whirl him around, dehypnotize him at once, and he will walk off as steadily as any one could. Such an experiment certainly upsets some of the theories regarding the production of vertigo—particularly the one quite currently accepted, that it is produced in conditions like those above, by a movement of the endolymph in the semicircular canals, such movement exciting the auditory hairs that project into the fluid.

As regards psychology or physio-psychology, the promises of what a study of trance can contribute are still somewhat vague. There has recently been written a work, by Mr. Cyples, of London, containing some very elaborate studies of the methods by which the mind receives impressions and acquires experience. The work containing these studies has been indorsed as the best contribution to physio-psychology that has been made for many years. It is evident, however, that some of the conclusions of the author would have been modified, and some of his work improved, by a study of the curious phenomena of hypnotism.

I fear I am dwelling too long upon a subject that may not be thought worthy of so much attention. But I must add something in regard to the medico-legal relations of trance; for as far as one can tell now, this aspect of it is going to be the most important one.

At a meeting of the Medico-Legal Society, last April, Dr. W. H. Hammond introduced the subject of the possibility of persons, while in a trance state, doing criminal acts. He hypnotized

a young man, and then, by various suggestions, made him commit an imaginary theft, a murder, and a forgery.

The experiments were well conceived, but too much was claimed for them by their author. His assertions were received with much incredulity, and even the reality of the condition of trance was denied. Dr. Hammond did not, he says, have a fair opportunity to defend his views. At any rate, the discussion was postponed till the next meeting. At this subsequent meeting, which occurred early in the present month, Dr. G. M. Beard occupied most of the time in presenting his view of the matter, and especially his theory of trance. The paper presented was a very good one, in its place, but the author dwelt upon his own views of trance, to the exclusion, largely, of its medico-legal relations.

Dr. Beard was, I believe, the first in this country to study thoroughly the subject, and he has probably spent more time and thought upon the matter than any one else. His digressions, therefore, might easily have been excused. They were not, however, by all of his audience. An amusing incident was caused by Dr. E. C. Spitzka, a gentleman who terrorizes with his logic and erudition the various medical societies to which he belongs. He called the spekaer to order, making the point that he (the speaker) was going over facts that were old, out of place, and not on the announced order of the evening. The president ruled that the point of order was not well taken, whereupon Dr. Spitzka took his hat and marched out of the room. Now that Conkling and Platt have resigned because they could not have their own way, it seems that our great men are getting petulant. Dr. Beard, in course of time, came to the medico-legal part of his subject, and stated that he did not think that persons in trance could go through any complex acts, criminal or otherwise. They were like machines, and would respond to a suggestion, but would act only upon that. They could do simple acts, like stabbing, shooting, and injuring themselves or others. They might perform a simple act of theft. Acts of adultery might be unconsciously performed, or a woman might be impressed with the idea that she had been violated, just as occasionally occurs in cases of the administration of chloroform. A few other medico-legal points were referred to briefly, but the subject was not well

brought out, and the subsequent discussion was very brief and of little importance.

Still, the matter has already got into the courts, not only in Paris, but in this country. The Whittaker case is asserted by Dr. Beard to be one of trance. This gentleman testified recently that the persons who mutilated Whittaker frightened him into a state of trance-coma, in which condition he was found. Other medical experts, such as Dr. L. C. Gray, have, to a certain extent, confirmed this opinion.

Any one would think, perhaps, from the local press of this city, that we were wading in garbage and cowering beneath the malign presence of half a dozen different pestilences. Our streets are rather dirty; we have some typhus fever, and rather more small-pox than usual. It is truly a disgrace that our streets are not cleaner, but the idea that the dirt in them is going to produce any violent epidemic is very extravagant. The mortality rate has not, on the whole, been much higher than usual, and has been lower than that of some other American cities. This would be especially true if the deaths of persons who have just reached the city—such as emigrants, or of transients in hospitals and elsewhere—were excluded. The cases of typhus fever are growing less, at date of writing, and the prospect is that the disease will die out. It has not been an easy thing to quarantine it, or to try and limit its spread. Thus, a short time ago, it came near infecting a whole infant asylum. A child was brought to the institution with the symptoms of scarlatina maligna. There was not much rash, but it had sore-throat, high fever, and great depression. The case was diagnosticated as one of scarlet fever, and, of course, put in the fever ward. Subsequent investigation, however, showed that it came from a house where two cases of typhus fever had been found. A closer study of the symptoms made it probable that the disease really was typhus. Fortunately, no one was infected. The present epidemic, indeed, has not been a severe one, as regards mortality or activity of infection.

Small-pox does not seem inclined to leave the city. The Board of Health has been very active in vaccinating the poor, and the vaccinating corps has done a great deal to limit the spread of the disease. Their work, this winter, has brought out a great deal

of evidence of the protective power of vaccination, including some actually crucial cases. I mention this because we have in this city a small number of fanatics who have organized themselves into an anti-vaccination society. I cannot find that many converts have been made. When small-pox leaves the city, doubtless the membership will begin to increase. I notice that the *North American Review*, with its usual skill in hitting off topics of present interest, has in its June issue a short article by Dr. Austin Flint, Sr., on "Vaccination." The article is a brief and unpretentious one, containing nothing especially new on the subject.

The Faculty of the Bellevue Hospital Medical College have, it is said, been made terribly sore by the numerous adverse criticisms in the medical journals upon its course in going back to a two-term system. But there does not seem to be anything that can be done about it. The school will probably in time recover what prestige it had. It certainly has, after all, only shown a little moral weakness. It is just as good a college as its neighbor, the University—which is not saying so very much, to be sure. Some apologetic remarks for the latter college were recently made by Dr. St. John Roosa. He said that an endowment was necessary for a three-term graded course, and stated that the Harvard Medical School was enabled to adopt its present system because it was thus endowed. To this an answer came promptly back from Harvard, that such was not the case at all; that the college was not endowed at all, and that the change had been made at a considerable pecuniary sacrifice.

There is a rumor that a new weekly medical journal is to be started in this city. It is at first to rival, and finally supplant, the *Medical Record*, which now leads the race. The *Record*, it is said, does not contain enough original articles of a high scientific standard. Doubtless the independent attitude of the *Record* towards the various medical colleges here has something to do with the movement. The colleges have their rings, and are mostly close corporations; and what is a ring or a corporation without an organ? It is further rumored that $25,000 has been subscribed for the object in question. It is not stated, however, that the money has been paid in. And when the actual amount

of work and money necessary for the conduct of a large weekly comes to be realized. the project will perhaps move more slowly.

Dr. L. A. Sayre has recently been indicted for malpractice. The plaintiff, a woman, alleges that Dr. Sayre gave her so much strychnine that it ruined her health. The case has not progressed very far yet, but it looks very much like one of blackmail.

Another interesting case recently in court was that of poisoning by a lemon meringue pie. Several persons who ate the pies made by a certain baker on a certain Saturday in October, 1879, were taken ill, with symptoms of gastro-intestinal irritation. One of the persons died, and the post-mortem showed that he had taken a corrosive poison. This was thought at first to be some salt of copper, produced by making the pie in copper kettles. Analysis showed, however, that there was no copper in the pie, but that there was a dye which stained wool yellow. This proved to be not the ordinary aniline yellow, which is probably innocuous, but dinitro-naphthol, a cheap yellow dye. This is the first case, probably, in which it has been found to have acted as a poison. The baker denied that he had put any dye in the pie, and it was not shown that he did it, or could have had any reason for doing it. However, the jury gave the plaintiff $1,000 damages. And persons who are fond of lemon meringue pies, if they go by the verdict, must look out for dinitro-naphthol in their dessert.

Our medical registration laws are now being tested, and, fortunately, the evidence in the two cases, or, at least, in one of them, is very strong. Two or three years ago, a man was called to account by the censors of the County Medical Society for practicing without any license. He then admitted that he had no degree, but protested against being interrupted in the pursuit of his living and the support of his family. Recently he has been caught trying to register his name as a regular practitioner, and claiming to have gotten his degree from the now defunct medical college at Castleton, Vt. The case is a clear one, and judgment was pronounced against him by the justice, but it has yet to be tested in the higher courts.

NEW YORK CITY, May 17, 1881.

Editorial.

We present to our readers with this number of the CHICAGO MEDICAL JOURNAL AND EXAMINER, a supplement of 100 pages, in which will be found a full report of the proceedings of the late meeting of the American Medical Association, collated in part from the daily edition of the Virginia Medical Monthly, the Editors of which deserve much credit for their efforts to publish daily full reports. This large addition to the cost of the Journal for the year and to the number of pages in the annual volume, is gained without any increase in the price of the Journal to our subscribers. The report, it is believed, is more full than any which has yet appeared, and we trust that this enterprise on the part of the editors and publishers will receive the appreciation which it is aimed to secure. We beg leave to remind our friends at this time, also, that we expect soon to present them with an excellent report of the transactions of the International Medical Congress, and that in our next issue we expect to report the proceedings of the Illinois State Medical Society, which is now in session in this city. No pains nor expense will be spared, in the future as in the past, to keep this Journal of Medicine in the forefront of all enterprises having in view the advancement of the interests of the profession.

Reviews and Book Notices.

Article IX.—The Microscope and Microscopical Technology. A Text-Book for Physicians and Students. By Heinrich Frey, Prof. of Medicine in the University of Zurich. Translated and Edited by Geo. Cutler, M.D. Illustrated with 388 wood engravings, 8vo, pp. 660. Cloth, $6.00. Wm. Wood & Co., New York.

To the student of Histology Prof. Frey is no stranger, and this work hardly requires an introduction. Ably written, it is well translated, almost too literally in places, but with a faithful regard for the author's meaning.

The cuts are numerous and truthful. We have chapters upon theory of the microscope; apparatus for measuring and drawing; tests; directions for using, preparing and mounting objects; directions for examination of blood, lymph, chyle, mucus and pus, and all the tissues normally and pathologically considered.

The chapter upon the urine and urinary apparatus is concise but clear. The Microscopical Examination is too briefly treated however, for a work intended for practitioners. A chapter could well be spared from elsewhere and devoted to this subject.

Following the index, which is exceedingly well arranged, are found the price-lists of the various instrument and objective makers, English, Continental and American.

Articee X.—How to See with the Microscope. By J. Edward Smith, M. D. Illustrated. Pp. 410. Duncan Bros., Chicago. 1881.

In this volume we have, given in an informal and chatty way, a good deal of information about stands, objectives, and general manipulation. There are a number of catalogue illustrations,

not all bound in correctly however, for pages 40 and 69 should be transposed. These assist the reader about to purchase, and give a fair comparison of most of our American stands with each other, beginning with those of Zentmayer—who rightly occupies a leading position as regards years of service and merit of instruments—down to the stand devised and arranged by the author, "The Acme." A handy one enough it would seem. To him not supplied with a microscope we would say, read the volume before purchasing, as it may save expense and future regret. J. H. T.

ARTICLE XI.—A MANUAL OF JURISPRUDENCE. By Albert Swayne Taylor, M.D., F.R.S., Fellow Royal College of Physicians, Honorary Member of the Medico-Legal Society of New York, of the Société de Médecine Légale of Paris, etc., etc. Eighth American edition, from the tenth London edition, containing the author's latest notes made expressly for this edition; edited, with additional notes and references, by John J. Reese, M.D., Prof. of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. With illustrations on wood. 8vo, pp. 934, half Russia, $6.50. Philadelphia: Henry C. Lea's Son & Co.; 1880.

The reputation of this book being so well established, all the reviewer can do is to recommend it to every student and practitioner as the best treatise on Medical Jurisprudence. It is practical and scientific, and a most valuable contribution to classical medicine. This new edition has been carefully revised and brought up to the present requirements of science. H. D. V.

ARTICLE XII.—THE BACTERIA. By Doctor Antoine Maguin, Licentiate of Natural Science, Chief of the Practical Labors in Natural Histology and the Faculty of Medicine of Lyons, etc. Translated by George M. Sternberg, M.D., Surgeon U. S. A. With illustrations. 8vo, cloth, pp. 228. Boston: Little, Brown & Co., 1880. Jansen, McClurg & Co., Chicago.

A beautiful monograph, illustrated with handsome photo-micrographs and lithographic plates. Bacteria have made such impression on the minds of scientific men; and some allied organisms, as *trichinæ*, bring on such a dreadful practical result, that

it is impossible for the physician to ignore them any longer. The present work is a necessary supplement to the best treatise on Botany, while half the book is devoted to the physiology of the subject. It should be found in the library of every practitioner of medicine. H. D. V.

Article XIII.—Medical Diagnosis with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. Da Costa, M.D., Professor of Practice of Medicine and of Clinical Medicine at the Jefferson Medical College, Philadelphia, etc. Illustrated with engravings on wood. Fifth edition; revised. 8vo, pp. 924. Cloth, $6.00. Philadelphia: J. B. Lippincott & Co. 1881. Jansen, McClurg & Co., Chicago.

Five editions of a work like this within sixteen years speak for themselves. Da Costa's has taken its place by the side of the best manuals used in this country, and is being translated into German. A careful study of this book will enable most young practitioners to make a clear diagnosis of, we may say, all their cases, and avoid the remorseful errors which might otherwise shake their faith in medicine, and blunt their energy forever. Diagnosis is the more important in our days, when law-suits for malpractice are so frequent, and the responsibility of the physician so great.

H. D. V.

Article XIV.—Syphilis and Marriage. Lectures delivered at the St. Louis Hospital, Paris. By Alfred Fournier, Professeur de la Faculté de Médecin de Paris, Médecine de l'Hôpital St. Louis, Membre de l'Académie de Médecine. Translated by P. Albert Morrow, M.D., Physician to the Skin and Venereal Department, New York Dispensary; Member of the New York Dermatological Society; member of the New York Academy of Medicine. 8vo, cloth, pp. 252, $2.00. New York: D. Appleton & Co. 1881. Jansen, McClurg & Co., 117 and 119 State street, Chicago.

The Medical Press in this country and abroad have highly praised this work, which is in fact one that we all need. The views of the author are sound and reliable, and a better study of the subject could not have easily been achieved by any other

writer than Dr. Fournier. The translation is faithful, not only conveying the ideas and the facts, but even the style and the peculiarities of the French lecturer. This book, however, is better adapted for physicians than students, on account of the social bearings of the subject. H. D. V.

ARTICLE XV.—THE MANAGEMENT OF CHILDREN. By ANNIE M. HALE, M.D.

This little book contains much valuable information for mothers, for whom especially it was written. So many young women become mothers, and have the care of the physical and mental development of children before they know anything of the hygienic laws that should be carried out if they would give the little ones the best chances of life, that it is necessary they should have some one to appeal to beside the old ladies of the neighborhood. The first part of the book is devoted to the care of children in health, and treats of the following subjects: Food and Sleep; How to Dress Children; How and When they should be Bathed; The Importance of Fresh Air, Sunlight and Exercise; Indigestion. The second part contains a description of the most common diseases to which they are subject and the general symptoms by which the trivial diseases which need only a little domestic treatment, may be distinguished from the more serious ones which require the careful attention of a physician. We can recommend it to mothers, and venture to say if they were more familiar with its contents physicians would have fewer calls.

ARTICLE XVI.—A TEXT-BOOK OF THE PHYSIOLOGICAL CHEMISTRY OF THE ANIMAL BODY, INCLUDING AN ACCOUNT OF THE CHEMICAL CHANGES OCCURRING IN DISEASE. By ARTHUR GAMGEE, M.D., F.R.S., Professor in the Victoria University, Manchester; Brackenbury Professor of Physiology in the Owen's College. With Illustrations. Vol. I., 8vo, cloth, pp. 488; $4.50. London: Macmillan & Co., 1880. Jansen, McClurg & Co., Chicago.

The author's reputation is well established, and this work is certainly the best ever written on the subject; still it will suffice for any one to read a dozen pages of it in order to become con-

vinced that the best authors have only laid down the rudiments of physiology. However, this is probably the key to a better understanding of diseases and a more successful treatment. No earnest student, and no practitioner of medicine, whose philosophy extends beyond *similia similibus curantur*, can afford to be without any notion of physiological chemistry, and Dr. Gamgee has just complied with the requests of practitioners, the world over. The first volume contains the physiological chemistry of the elementary tissues of the organism, the blood, the changes which the blood undergoes in disease (a valuable chapter, but very incomplete), the lymph, chyle and transudations, pus, the connective tissues, the epithelial tissues, the contractile tissues, the nervous tissues, etc. A variety of apparatuses are figured in the text, and most of the experiments referred to are so well described as to facilitate their repetition by any student. We will wait anxiously the second volume, and recommend a careful study of this one, especially to those who are engaged in teaching chemistry, physiology, or pathology. H. D. V.

ARTICLE XVII.—RUMBOLD'S HYGIENE OF CATARRH.

We believe this the first book on catarrh which is devoted wholly to its hygienic treatment, but we also believe, with the author, that it is one of the most important points to be observed in its treatment. The author has made catarrh a special study for the last twenty years, and that he has been faithful and thorough in his study none can doubt who read his book. The first part of the book treats of Hygienic Measures. The importance of preventing colds. The care of the head—its protection day and night. He does not believe in shampooing, for it makes the scalp dry and the hair brittle, but thinks the hair should be oiled enough to keep it moist. The neck should not be bundled up with furs and comforters. Clothing should be thick in winter. Girls are more subject to catarrh than boys of the same age, because they are not warmly dressed, but the ratio changes when they become adults, for then boys take up the tobacco habit. Too frequent bathing and changing of underwear is a frequent cause of colds. The body, like the scalp, should be moist and not too dry. He describes the

"Catheter Nasal Douche," an instrument devised by himself, which, from the description and illustration, must be more effective in removing the crusts from the superior and posterior parts of the nasal cavities than any instrument yet invented. The jets of spray are thrown from the catheter in such a way that they must come in contact with the hard crusts that collect in those regions. We have not examined the instrument, but have no doubt of its usefulness. The Lucas Ear Injector, with his improvement, is a very convenient and ingenious instrument. The gutta percha ring which is molded to fit the outlet of the auditory canal prevents the escape of the fluid, except through the recurrent tube which conducts it into a vessel. The patient can use it himself and keep up a gentle continuous injection, without any danger to the membrana tympani. But one of the best chapters in the book is the one on the mental and physical effects of tobacco. We have suffered ourselves for several years from the injurious effects of the habit, and we can vouch for many of the facts stated. We believe it almost impossible to cure a patient of catarrh while he is continually using the weed. It is like attempting to cure the mucous patches of the mouth of a person with syphilis, who chews tobacco continually. In the fourth division of the chapter he says "the congestion occasioned by the action of tobacco on the mucous membrane of the superior portion of the respiratory tract resembles in many respects the congestion resulting from the effects of a cold, and, like it, some of its effects are transitory and some permanent." We can recommend this book to the profession, for the disease is so common in this climate and so hard to cure, it behooves us all to be as bright as possible on the subject.

ARTICLE XVIII.—THE BLACK ARTS IN MEDICINE, WITH ANNIVERSARY ADDRESS. By JOHN D. JACKSON, A.M., M.D. Edited by L. S. MCMURTRY, A.M., M.D., 12mo, pp. 74, cloth. Cincinnati: Robert Clarke & Co., 1880.

From time immemorial, the subject of the first part of this book has formed an interesting topic with medical men; for, although all physicians advertise, only the fool or the ignorant do it in the manner spoken of in this monograph. A great many ways are open to physicians to build their reputation: 1. Talents

and skill. Let a man prove himself a learned scholar, an eminent man of science; let him secure a professorship in a medical college, fullfil his position better than any body else could; let him become a favorite with his colleagues, and soon his reputation will extend to the whole community. Then let him write some classical work on some branch of medicine, and his reputation is built and advertised for life. This is a very commendable way of advertising. 2. Honesty and social position. It is in the nature of our vocation to be sociable, honest, reliable citizens, and he who possesses these merits cannot fail to command a large practice wherever he becomes known. It is a subject of grief for the profession at large to be so little represented in politics, religion, or industry, and a large source of income is cut off from its members on that account. Even mental income, if we so style the expansion which the mind receives from a daily contact with all the most important facts of political economy. So much so that we have all met bright young men cheerfully entering the career of medicine, full of energy and vigor, who were soon complete wrecks, so quaint and modeled by prejudices was the profession in the places where they began practice. 3. Professional men must be universal in their knowledge. Lack of this is a great drawback to many practitioners who never studied anything but what is taught in common schools, took two courses of lectures in a medical college, and set to practice. Some of these are remarkable for their ignorance, especially of anything beyond their materia medica, and the routine of practice, and the medical profession, on their account, is looked upon as something insignificant and of doubtful merit.

Let us all advance our standard in these various directions, and the people at large will soon learn to whom to apply for reliable medical attendance, and their money will not be wasted on quacks as much as it is now. Many deficiencies stand in opposition to these views. Indolence on the part of some able men who could assume and fill higher positions; a lack of business in many famous physicians, who engage in ruinous competition with younger members by charging the lowest fees; and last, not least, a sort of ostracism to which most physicians willfully submit. H. D. V.

Summary.

Collaborators:

DR. L. W. CASE, DR. R. TILLEY,
DR. BYRON W. GRIFFIN, DR. W. L. DORLAND,
DR. H. D. VALIN.

QUARTERLY ABSTRACT OF OPHTHALMOLOGICAL AND OTOLOGICAL LITERATURE.* By Dr. E. J. GARDINER, Chicago.

THE APPLICATION OF ELECTROLYSIS IN OPHTHALMIC THERAPEUTICS. By A. Nieden, M.D., of Bochum.—(*Arch. of Opth., Vol.* X., *No.* 1.)

N. highly recommends the use of electrolysis in the treatment of angioma of the lids, and reports several cases cured by its application. The portable, constant apparatus made by Krüger, of Berlin, after the model Spamer, was used. The needle of the positive pole should be made of platinum, steel needles having the disagreeable feature of becoming rapidly oxidized, and discoloring the tissues by the intermingling of the products of oxidation with them. "The needles are inserted at the places appearing most desirable for the first attack; in small tumors, one for each pole; in larger ones, two or more for the negative pole." His results have been very satisfactory.

CONTRIBUTIONS TO THE KNOWLEDGE OF THE CONGENITAL DISPLACEMEMT OF THE LENS. By Dr. H. E. D'Oench, of St. Louis.—(*Arch. of Oph., Vol.* X., *No.* 1.)

After reporting the case of a girl, eight years old, in whose right eye there was found congenital dislocation of the lens, out-

* Authors are requested to send a re-print of their papers, or the number of the journal in which they appear, to Dr. E. J. Gardiner, 170 State st., Chicago, Ill.

ward and slightly upward, and in the left eye almost exactly outward; and, after reviewing the literature on the subject, D'O. arrives at the following conclusions:

1. Ectopia of the lens is a malformation, the causes of which, thus far, remain unknown.

2. It always affects both eyes, generally in a symmetrical manner.

3. The direction of the displacement is almost always either upward, upward and inward, or upward and outward.

4. The lenses are generally transparent; sometimes their size is below the mean.

5. The suspensory ligament is sometimes found, sometimes not.

6. In about one-fourth of all cases, there is myopia.

7. The position of the lenses may remain unchanged throughout life, but spontaneous dislocation may also result.

8. Heredity has been proven.

"ON QUININE AMAUROSIS." By Dr. E. Gruening, New York. —(*Arch. of Oph.*, *Vol.* X., *No.* 1.)

G. reports in detail the case of a lady (age thirty-five) who, after taking 80 grs. of quinine in thirty hours (10 gr. doses), was seized with a convulsive fit. When the attack had passed, the patient was found to be totally deaf and blind. Twenty-four hours after the attack, hearing was partially recovered, but total blindness persisted for one month, when she began to distinguish light. From this time (July 19) V. gradually improved until Sept. 23rd, when with + 3 D. her V.=$\frac{20}{20}$, and reads Snellen $1\frac{1}{2}$. "Her fields of vision were concentrically limited." On Snellen's color-chart no colors are recognized. On Dec. 28, the four fundamental colors were perceived. After excluding all causal elements known to bring on temporary amaurosis without appreciable retinal lesions, G. concludes that, "On reviewing the unequivocal cases of quinine poisoning with amaurosis (Roosa, Wecker, Voorhies, Gruening), we find a remarkable congruence in their essential features." "The patient, after the ingestion of a single dose, or of repeated doses of quinine, in varying quan-

tities, suddenly becomes totally blind and deaf. While the deafness disappears within twenty-four hours, the blindness remains permanent as regards peripheric vision, central vision gradually returning to the normal after some days, weeks or months. The ophthalmoscope reveals an ischæmia of the retinal arteries and veins, without any inflammatory changes."

"In view of the constancy of these symptoms, and the uniformity of the ophthalmoscopic picture, we are entitled to demand for this type of amaurosis a recognized position in the pathology of the optic nerve and the retina."

AMBLYOPIA FROM DISUSE. By Dr. E. Williams.—(*Cin. Lan. and Clin.*)

W. advises tenotomy as soon as the strabismus is a "fixed thing," in order to save the sight of the eye, with faulty fixation. In support of the theory of amblyopia from disuse, he reports the case of a man of sixty-three years, who in boyhood had been operated upon for convergent strabismus. The effect had been excessive, the result being a very unsightly divergence, with a great insufficiency of the interni. He had learned to fix exclusively with his right eye; the left was defective in vision from "disuse, previous amblyopia, or both." Suddenly a large hæmorrhage occurred in the region of the macula of the right eye, which reduced his formerly good V to $\frac{3}{200}$. The habit of fixing with his right eye adhered to him, and when he looked with it he saw but little; when this eye was closed, and he could fix with his left eye, he saw much better. On uncovering the right eye, he involuntarily fixed with it; the left eye diverged, he suppressed the image, and was left in obscurity. By months of patient practice, he has acquired control over the muscles of his left eye, and now fixes with it. The eye was hypermetropic $\frac{1}{14}$, with $+14$ V $=\frac{15}{40}$; six weeks later, V $=\frac{20}{30}$. He yet sees badly at night, and can only read for a few moments at a time.

CONTRIBUTIONS TO THE STATISTICS OF MYOPIA. By Dr. O. Just, of Zittau, Saxony.

In order to ascertain whether the bad hygienic conditions of schools were the sole cause of myopia in children, J. examined

seven classes of the two new High Schools of Zittau, in both of which the hygienic conditions of light, space and arrangements left nothing to be desired. Not finding the percentage decreased, he concludes that "myopia being as frequent in the new schools of Zitttau as in other educational institutions of the same kind, we may fairly conclude that it does not chiefly result from insufficient illumination of the school rooms, but rather from the great and ever-increasing demands on the industry of the pupils at home, forcing prolonged labor on their eyes during the evening hours, frequently by insufficient artificial light."

J. does not underate the dangers of bad sanitary conditions in school rooms, but urges the necessity to disencumber children's eyes of as much evening work as possible.

"DE L'AMBLYOPIE ALCOOLIQUE." By Dr. H. Romiee (de Liège).—(*Rec. D'Oph.*, Jan., 1881.)

R. considers this disease much more common than it is supposed to be. Among the most prominent symptoms he mentions the loss of accommodative power, which ranges from slight "weakness" all the way to total paralysis. *Vision* rapidly diminishes, terminating in complete blindness.

Color perception diminishes from the center (central scotoma), and gradually attains the periphery. *Ophthalmoscope.*—The changes in the fundus are limited to the optic nerve, the modifications of which he resumes in : (*a*) hyperæmia, (*b*) a characteristic white appearance of the papilla, (*c*) gray atrophy. After stating the general symptoms and treatment, he reports several very interesting cases.

PYÆMIA FOLLOWING A MASTOID ABSCESS, Treated without Medicine. Recovery. By E. F. Ely, New York.—(*Arch. of Ot., Vol.* X., *No.* 1.)

E. gives in detail a case in which, after chronic suppuration of both middle ears for many years, a mastoid abscess formed on the right side. Wilde's incision was made, and after considerable trouble a soft spot in the bone was detected. The fistula was enlarged, a poultice applied, hot douche ordered to be used. The patient apparently improved, and was considered out of

danger, when suddenly, on the sixth day after the operation, he had a chill, and the temperature at 9 A. M. was 104½°. For eleven days the patient presented well-marked symptoms of pyæmia. Both the author and Dr. Roosa gave a very unfavorable prognosis to the family. During this illness no medicine was administered. "Aside from the matter of drugs, this boy, of course, had a great deal of medical treatment, in the best sense of the words. He had a quiet room to himself, with an open fire. . . . Good nursing. . . . I visited him often myself, and every small detail regarding food, stimulants, dressings, etc., received thoughtful consideration. . . . Food was well born during the entire period. . . The diet consisted of milk, to which was added a little sherry wine at first, and afterward a little whisky. Poultices were kept applied over the jugular vein and upon the painful swelling over the left sterno-clavicular joint."

"Jan. 31.—Pains and tenderness along each clavicle. A red and tender swelling, about the size of a walnut, has appeared over the left sterno-clavicular articulation. Distinct sense of fluctuation."

"Feb. 12.—There were no unfavorable symptoms after this date. . . . He went out, Feb. 26 (thirty-six days after operation). Free discharge from mastoid, fistula and ear."

"THE COTTON PELLET AS AN ARTIFICIAL DRUM HEAD." By Dr. H. Knapp, New York.—(*Arch. of Ot., Vol.* X., *No.* 1.)

After giving a short historical review of the artificial drum head, K. reports four cases in which its application rendered decided services to the patient. In Case I, a lady of forty-one, who had copious and offensive discharge following scarlet fever, and who at the age of twelve was so deaf as to necessitate people to speak loud directly into her ears, was treated by Dr. F. A. Cadwell, who put cotton pellets into her ears. He attended her himself until the discharge had almost disappeared. "Since then (29 years) she has worn the cotton pellets, and by their aid has always enjoyed good hearing, and has been free from pain and inflammation." At present, without the pellets, she understands conversation at the distance of a few feet—with them at

twenty. In Cases II, III, and IV, the results obtained were also excellent. The points which Dr. K. desires to make in regard to the use of the cotton pellets are summarized in the following statements quoted from his article:

1. "Cotton pellets, moistened with glycerine and water (1:4), and worn as artificial drum-heads, are a great aid to hearing in many cases of partial or total defect of the natural drum-head, with or without otorrhœa."

2. "Their therapeutical action in arresting profuse discharge on the one hand, and preventing the mucous membrane of the drum cavity from drying up, on the other, is most valuable."

3. "They protect, like natural drum-heads, the deeper parts of the ear against injurious influences of the atmosphere."

4. "In some cases they are quite indispensable, and may be worn for a lifetime with permanent comfort and benefit."

5. "In other cases they are needed only periodically, according to the copiousness of the discharge, or the exsiccation of the mucous membrane requires their action, in the one or other direction."

6. "The period during which a pellet may be left in the ear varies with the condition of the parts. They should be changed frequently—*i. e.*, every day, or every few days, so long as the discharge is considerable. They should not be worn at all when the discharge is abundant and offensive. When there is no discharge they may be left in as long as they are comfortable and the hearing is good. So far as my experience goes, they are apt to become unclean in a week or two. They then ought to be removed, the ear cleansed, either with dry cotton, or cotton steeped in warm soap-suds, and new pellets introduced."

7. "The management of the ear disease should remain in the hands of the physician until a stationary condition, either of slight or no discharge, has been reached. During the time the patient is under treatment, he can be taught how to cleanse his ear, and remove and replace the pellets."

PRACTICAL MEDICINE.

CATARRHAL DIATHESIS IN YOUNG GIRLS.

A special state of the organism has been demonstrated, constituting what we call a *catarrhal diathesis.* We observe in a certain number of young girls, even in very early youth, general impairments of health which plainly call for that term. This peculiar form of catarrh, which often came under my observation at Mont-Dore, is in reality a constitutional affection, and is, in all the extent of the term, a diathesis. Besides, it is not fully inherited, but it is connected with dispositions or tendencies which visibly depend on the constitutions of the parents.

Etiology.—Two facts must be considered in this respect: the health of the parents, and the hygienic surroundings of the girl. (1). Most always, the parents suffer from what we generally call a delicate constitution, a constitutional weakness, and suffer from some catarrhal affection, or die young. In many cases, they even show symptoms of adenitis, scrofulosis, or phthisis. (2). As a general rule, these young girls have been exposed to cold and dampness, either in their homes, or under exposure to the influences of a cold climate.

Symptoms.—These girls have often a light complexion, are pale, and their flesh is soft; they easily take cold, and they sometimes have what we call a *fatty chest* (an increased secretion of mucus in the respiratory passages). Although, excluding cases of more or less acute affections of the bronchi, auscultation reveals no important change, sometimes none at all. The digestive functions are often irregular. The general growth of the body is slow and labored, as it were. The girl is said to have a delicate constitution; her menses set in late; and, in many cases, the most important point is, an abundant leucorrhœa, very weakening, which may have started in early infancy.

As might be inferred from what precedes, the nervous element is found a good deal in the catarrhal diathesis of young girls. It is manifested by pains in various parts of the chest, by chokings, which take place without adequate causes, by the erratic and changeable character of the symptoms, by the frequency, obstinacy and the character of the cough, notwithstanding the negative

results of physical examinations; by an abundance of expectoration, alternating or existing simultaneously with a profuse leucorrhœa. To conclude, these profuse losses from the bronchi, or from the genital passages, finally ruin the constitution.

This diathesis, we are happy to say, is capable of being cured, by an intelligent observation of the laws of hygiene, by an appropriate treatment; and age may also bring a cure.—Abstract from an Address of Dr. G. Richelot, in *L'Union Médicale*, March 3.

THE editor of the *Journal of Comparative Mèdicine* desires to secure as complete a list as possible of all persons practicing Veterinary Medicine in this country. No Veterinary Medical Register now exists. It would tend to unite members of the veterinary profession, and benefit them in many ways, and would be a convenience to many others, if such a register were published. All veterinarians are urgently requested to forward by postal, their names, titles and addresses. All such will receive a copy of the final list at cost rates. Address, Editor of Journal of Comparative Medicine, care W. P. Hyde & Co., 22 Union Square, New York City, N. Y.

SMALL POX AT BOULOGNE.—The small-pox statistics at Boulogne-sur-Mer during the months of January, February, and March are as follows: In the town and at the hospital there were 157 deaths, 94 of which were children. The disease has been of a virulent form, but the numbers have decreased during the last month. Over 1,600 people have been vaccinated from the calf, four having been placed at the disposal of the medical men of the town; and at a meeting of the Medical Society, April 5, it was decided to continue the vaccination, each medical man taking his turn at the work. On the morning of the 11th of April, there were only eight cases at the hospital, all going on well.

Selections.

THE PHYSICIAN'S LEISURE; A PLEA FOR THE STUDY OF ARCHÆOLOGY. By Dr. CHEVERS. (Continued from p. 548, May, 1881.)

The ancients had their air-tight dressings, ruder than the appliances of the antiseptic method, but useful in the same direction. Wadd tells us of an empiric who professed that he had a radical cure for inguinal hernia. He used to remove the testicle and throw it to his dog, and then to secure the cord with a sow-gelder's clamp in such a manner as, possibly, to set up inflammation in the inguinal canal, and to close it against the descent of the hernia, providing the patient did not die. This wretch rudely anticipated an operation which modern science has almost perfected. In John Hunter's time and long afterwards, broad ligatures or narrow tapes were used in tying arteries. I had the honor of knowing, in his retirement at Kensington, Dr. Veitch, a naval surgeon, who first proposed the thin round silk ligature—certainly one of the most daring and remarkable discoveries ever made in surgery. "How," common-place people must have exclaimed, "is a great artery to be closed by suddenly cutting through its inner and middle coats?" And so it has been that, for the last seventy years, no one has amputated a limb or deligated a main artery without dreading hæmorrhage should the ligature separate too early. Now again, Mr. Barwell has introduced a most ingenious modification of the broad ligature. His "flat ligature," which compresses the artery but does not divide its coats, has been employed with great success.

The palæontologist and anthropologist search with true antiquarian feeling, in the caverns and pits of Britain, for the

remains of the bear, the wolf, the wild-boar, the hippopotamus, and rhinoceros, and delve in the barrows which stud our English downs for the skulls and weapons, and ornaments of our brachy-cephalic and dolicho-cephalic ancestors. Others explore the mosses of Waterford and the Isle of Man for the skeletons of the extinct gigantic elk (*Magaceros Hibernicus*), and the icebergs of Spitzbergen for the frozen bodies of the mammoths of the glacial period. At home we view with interest the *Bos primigenius*, the only pure, but degenerate, representative of the aboriginal gigantic cattle of our island, still to be found at Hamilton, Chillingham, and Chartley. When duty compels us to labor in distant colonies, we reconstruct the bird dodo of the Mauritius, and the dinornis and apteryx of New Zealand, and we discover living types of the fossil iguanodons and crocodilians of the oolite in the go-samp of the East and the guano of the West Indies, and in the garials, representing the genera Steneosaurus and Teliosaurus, at which griffs throw pot-shots, usually ineffectually, as the boats stem up against the tide of the Ganges and Brahmapootra. The zoologist observes that the edible snail (*Helix pomatia*), cultivated by the Roman colonists in Britain more than nine centuries ago, as freely as snails are eaten in Paris at this moment, is still so often to be found in the vicinity of Roman settlements, that its discovery in any given locality encourages the antiquary to search its habitat for the buried remains of Roman mansions.

So the botanist wonders over the mummy wheat and the mummy pea of Egypt, preserved in life among the cerements of the embalmed dead since the time of the exodus. He notices a fact of similar interest in this passage from Aubrey's Natural History of Wiltshire: "The spring after the conflagration at London, all the ruins were overgrown with an herbe or two, but especially one with a yellow flower; and on the south side of St. Paul's Church it grew as thick as could be; nay, on the very top of the tower. The herbalists call it *Ericolevis Neapolitana*, small bank cresses of Naples; which plant Tho. Willis" [the anatomist and physician, from whom the circle of Willis has its designation] "told me he knew before but in one place about the town; and that was at Battle Bridge, by the Pindar of Wakefield, and that in no great quantity." Again the same conservative spirit in

Nature, in now hoarding up and now spreading abroad buried germs of useful plants for man's benefit, is illustrated by a fact mentioned to me by my friend Sir Joseph Fayrer, and lately cited in My Notes on the Diseases of India, that, after the incessant cannonade of the enemy had crumbled to dust much of the frail defenses which surrounded the Residency at Lucknow, the wild spinach of India (*sag*), a useful antiscorbutic, sprang up from the *débris* of pulverized brickwork, and was brought in by our soldiers, under fire, and sold, weight for weight against rupees, to the officers, who bought it for their wives and children perishing from scurvy. We were told, a few years ago, that red roses still flourish wildly where so much Lancastrian blood was poured out four hundred years ago, on the field of Towton. The Scottish thistle, doubtless planted by the attendants of Mary Stuart, still flourishes on the site of Fotheringhay, although not one stone of that great ducal fortalice remains upon another; and it is a well-known fact, in the North, that the line of the Roman wall is peculiarly rich in those medicinal plants which were used by the Roman physicians.

The geologist, the botanist, and the zoologist naturally and readily become antiquaries. Their work requires that they should visit the remotest and least frequented districts; and, while they examine the structure of the rocks or the flora and fauna of each locality, they readily observe and perhaps discover antiquities which time has hidden from eyes less practiced. Thus it is that, in our own time, Nilson, the zoölogist, has taken a foremost place among northern archæologists.

The chemist must have a very unlearned knowledge of his science if he cannot give the history of his predecessors, the alchemists,—Raimond Lully, Basil Valentine, who discovered the medical uses of antimony, and Paracelsus; and unless he can show how chemistry was developed by Boyle, Cavendish, Lavoisier, Priestly, and Davy.

Many medical men, like Charles Patin, the numismatist, Sir Thomas Brown, Dr. William Stukeley, and Professor Simpson, whose memory is still fresh wherever medicine is valued in its highest scientific aspects, were eminent antiquaries—that faculty which enables a man to discover how to read the inscription on a

coin which time has rendered, to all appearance, perfectly flat, by placing it on a plate of red-hot metal, being nearly akin to that power of cultivated observation by which the mysteries of pathological action are investigated and interpreted. Chief among modern archæologists is to be named a gentleman long a general practitioner in the city, in the center of the remains of Roman London. Encouraging the mud-larks of the river Thames, and the laborers who dug the sewers and laid down the gas mains, he gradually collected from the river shingle, from the bed of the ancient Wall-Brook, by the Mansion House, and from the dust pits of the city of the Proconsuls, so rich a store of Samian ware, such a variety of ornaments, so many works of art, statuary, tesselated pavements, sarcophagi, utensils, and weapons, that Roman London was virtually re-discovered by his researches, and lives again, at the Guildhall, after fifteen centuries of obliteration, in the collections of Charles Roach Smith.

What a solace may archæology become to the perhaps not extremely successful country doctor who has within him a scintilla of real antiquarian feeling! His daily round, perhaps through mile after mile of the bleakest, barest, ugliest country in the realm, becomes to him a course of never failing interest. We will say that it is nearly all down or moorland, without a grove or a single stately tree to afford it shade or to relieve its blankness, or one babbling stream or pleasant waterfall to give it life and freshness. And yet how full of interest it is to him! Yonder hideous church tower is nearly unique as an unrestored specimen of well authenticated Saxon architecture. In the churchyard is a rude stone cross, the inscription on which he has been enabled to read by aid of the Runic alphabet in his Penny Cyclopædia. The stump on this knoll by the wayside shows where Hardriding Rob, the highwayman, was gibbeted in chains. That shapeless mass of coarse stone rubble, traversed with bright red sections of baked tiles, is one of the *vestigia* of a Roman city which lies buried here, and from the confines of which the country folk often bring him relics, of which he alone, in that neighborhood, knows the true import and historic value, ranging from the invasion of Claudius and throughout the four hundred years of Roman occupation until the last trireme left our shores. From

this old chalk-pit the diggers (he is not to be imposed upon by the Stone Jacks who manufacture these relics) procure him and sell him for copper those palæolithic and neolithic flint spear heads, arrow heads, and hatchets, his collection of which is beginning to obtain celebrity. Across that valley is a British earthwork, and upon it the still distinctly bared cutting of a gigantic human figure, most clearly defined when rain has fallen and the tender grass springs up along its outline. In this, enclosed within strong hurdles, the Druids used to sacrifice human captives by the hecatomb. Out there are Celtic barrows in all their varieties of form, the long and the conical, the twin barrow and the Druid barrow, the burial places of prehistoric chieftains. Just here was fought one of the grimmest battles of the Wars of the Roses. See how bravely the corn waves where the dead lie thickest, and where, as lately happened in the "Bloody Meadow" battle-field at Tewkesbury, the teeth of the flower of England are brought to light wherever the plowshare passes. On the green sward, a little farther on, once a Roman *cursus*, one of Rupert's fiery charges broke a squadron of ironsides as a gust of east wind scatters the thistle-down.

The museum of the nearest city, so much indebted as it is to his knowledge and contributions, is, to him, a place of delightful resort. The sight of a new number of *Notes and Queries*, containing his reply to a long debated question, upon his study table when he returns at night, almost worn out by toil, to which disappointment has perhaps added tenfold weariness, seems to renew the life within him; and the occasional festival of the Archæological Society, of which he is an active member and the chief local cicerone and expositor, affords him unalloyed delight.

Some matter-of-fact hearers may say—"All this is very well, by way of amusement, to the few who care for such old-world matters; but you have described to us a mere unpractical Dry-as-Dust who wastes his time and his money in desultory ramblings and earth grubbings which bring him and his patients no valid and substantially useful return. It is not so. His leisure is pleasantly and, at the very least, harmlessly occupied; utter weariness of the toils and troubles of life is not permitted to eat his soul up; and, for the rest, the people respect him for his great

earnestness, his strange knowledge, and his pure life; and his intercourse with the clergy and squirearchy of his district is rendered safe and pleasant by their recognition of the fact that their medical attendant, whose professional knowledge they have no power of gauging, is undoubtedly a gentleman of refined and scholarly tastes. Let me repeat—Your patients have, for the most part, very little notion as to whether you are or are not competent physicians and surgeons. In this respect any impudent quack will often strike and attract the laity more than you will ever succeed in doing. But you will fail in your duty to yourselves and your profession if you do not take honest, unostentatious means to acquaint the society into which you are thrown that you are well educated men of cultivated intelligence.

Here I must offer a caution which, with some, will condemn my main argument. However praiseworthy and useful the occupations of the physician's leisure may be in themselves, he must pursue them with some caution, I will not say secresy, at least until his professional reputation is fully established. The enemy readily discover a weak point; any gibe that stings a rival will serve in turn. It was said of a student who went in for the prize in medicine, "We must either give the medal to him or give him nothing." "Well, he shall have the latter,—he is a *bookish* man." I knew a surgeon who fell very little short of greatness, who failed in life because he had become branded with the name of "pathologist." It must not be charged against us that we sacrifice our duty to our amusements or even to our special studies. "Dr. ——," said a patient, "is probably too much engaged in his literary pursuits to afford proper attention to the sick." John Bell's remark upon his brother and superior, Sir Charles, is alleged to have been, "The body draws." I was present when it was proposed, but not seconded, in our municipality at ——, that the city surveyor, an exemplary officer, but an admirable amateur photographer, should be ordered to give over taking sun-pictures. But this difficulty attends nearly all visible and active amusements, and he is unfit for our profession who is not both discreet and moderate.

To myself, a strong, but, I trust, not ill-regulated, love for antiquarian reading has (to say little of the rest and gratification

which it has given in an active career in which ordinary "amusement" has obtained no part at all) afforded me great and valid assistance as a professor of medicine, as a hospital physician, and as an investigator and writer in the subjects of pathology, public hygiene, and medical jurisprudence, for research in which India affords an admirable field. In all my subjects of study, old books yielded me endless lessons. Let us take one of these. Throughout that web which forms the etiology of most of the prevailing diseases, not only of India, but also of England, run two threads of pathological influence, by the accurate tracing of which the physician can often alone hope to unravel the mesh in which his patients are enveloped. These two factors are the marsh poison and scorbutus. What modern physician, of English training, can efficiently cope with these most insidious and tenacious constitutional taints unless he has paid close attention to history? He can have seen very little pure and unmasked malarious fever in the city hospital where he studied; but, at this moment, there are plenty of marshes and bad food in the United Kingdom; and history tells him that, in ancient times, marsh disease swept down the haughtiest heads of England's royalty and nobility. Henry of Agincourt, Wolsey, Walter Devereux, Lord Deputy of Ireland, and a host of other distinguished persons, died of dysentery or some cognate disease. Mary of England, Cardinal Pole, James the First, Cromwell, and Charles the Second died of marsh fever. In fact, it is a truth, albeit a quaint one, that the Reformation was, validly, the first great step in the march of sanitary reform in England. It led to the filling up of the moats and stews, fish ponds and lakes, which furnished diet for fast-days, and which maintained a constant supply of paludal poison at the very door of every country house in England, as the tank or water pit now does beside each hovel in Bengal. Again, who, although he may have worked for years in a seaman's hospital, either in this country or in India, can know much of fully developed scurvy unless he has pondered over the miserable but invaluable lesson afforded by the narrative of Anson's voyage, and has made himself thoroughly acquainted with sea scurvey as its every phase is delineated in the now antiquated pages of Lind and Trotter? Land scurvy is present nearly everywhere among the poor, and often

among the rich, in India: and it and the marsh poison should never be entirely out of the mind of the physician who practices in London, one of the worst placed cities in the world, where the combined effects of these two deadly influences are daily seen in purpura, anæmia, sloughing phagedæna, cancrum oris, carbuncle, dysentery, and splenic enlargement.

Still again, who can take a large view of diphtheria, typhus, and the true enteric fever of Jenner, unless he knows well the history of their great predecessor, the Plague, which appeared nearly every year in filthy, overcrowded, ill drained London, and heaped up fathoms of dead in the monstrous plague pits (one of which lies within a few paces of the spot upon which we now stand), until that grand but rather costly sanitary measure, the Great Fire of 1666, only improved matters in degree, leaving in the Plague's track the scarcely less insidious and mortal diseases which I have just named; and also, as I fully believe, still leaving this improved but very insanitary city fully open to attacks of plague whenever the pestilential wave shall again be directed northwards?

Who could, with advantage to the miserable individuals under his charge, work, either in England or as I did in India, as an inspector of jails, unless he knows the history of the Jail Fever in England, which called into activity Howard and his noble system of prison reform. How, as Stow tells us, in 1414, "the Galores of Newgate and Ludgate dyed, and prisoners in Newgate to the number of sixty-four—through a contagion called the Sickness of the house;" how, in July, 1577, at the Black Assize, at Oxford, those in court were surprised with a pestilent savor, upon which the Lord Chief Baron, almost all the jurors, and three hundred others who were in the court, sickened and died; and how, in May, 1750,—a range, not an intermission, of nearly three hundred years,—at the session of the Old Bailey, four on the bench together with two or three of the counsel, one of the under sheriffs, several of the Middlesex jury, and others present to the amount of forty-nine, were attacked with the disease and perished?

To the working student of public hygiene, a true and full knowledge of the history and minute topography of Old London

before the Fire, when a hundred and thirty thousand citizens were packed, almost in bulk, into the narrow walled space between Cripplegate and Queenhithe, the Fleet River and Aldgate, is what a hospital and a dead-house are to the practical physician. In the records of the one will be found the most typical illustrations of nearly all insanitary things in their full, unchecked development, as in the beds and on the tables of the others will be discovered all morbid objects, open to him who can observe. If a student of medicine tells me that he has just seen two "good cases," I, as a student of old-world sanitation, can give him two, out of hundreds of equal interst. 1st. I read* that, on October 9, 1551, Giles, the King's beer brewer, dwelling at St. Catherine's, *who had bled to death from a scratch on his leg*, was buried this day at Aldgate, with heraldic emblazonments of his arms and the craft of the brewers. Here is a very natural death (of which more than one parallel instance has come under my notice) in a person who breathes a mixture of marsh and sewer gases, and has unrestrained access to intoxicating liquor. 2nd. I note that the inhabitants of the houses on London bridge always escaped the Plague—an early and very striking evidence of the value of free sewage and thorough perflation.

It is a remarkable, but by no means new, observation, that, when I have been engaged in search of any particular branch of knowledge, I have scarcely ever taken up the most ancient and best of all books without discovering, to my surprise, information closely germane to my inquiry. I will give only two instances out of many. The tanks of Bengal are ponds upon which the sun generally shines all day long, and the natives are constantly seen bathing or drawing water there. Magistrates and civil surgeons are well aware that a by no means unhealthy looking Bengali is not unfrequently found lying dead, face downwards, in very shallow water. On post mortem examination no traces of mortal disease are discovered, and much doubt has often arisen as to how the individual came by his death. The neighbors generally say that he had *mrigi*, epilepsy; and this is probably true in many cases. Then there are also many other instances in which Indian epileptics fall into the fire or into the huge kettles

* Henry Machin's Diary.

in which rice is boiled for large parties at festivals. When I mentioned this to Dr. Francis Warner, he remarked that he had recently seen a case in which the epileptic paroxysm was excited by the sight of any bright or dazzling object. So it always is with the spasm of hydrophobia. How clearly is this law in disease expressed in the sacred account of the epileptic demoniac: "Ofttimes it" [the dumb spirit] "hath cast him into the fire, and into the waters, to destroy him" (Mark ix. 22).

Again, it is well known that the Cucurbits are a rather dangerous family, the worst of their number being *Cucumis colocynthis;* but gourds, melons, and cucumbers are generally considered to have a doubtful character for wholesomeness. In working out the subject of Indian poisons, I of course inquired about the Cucurbitaceæ, but found little or nothing for the three editions of my book except the case of a retired officer, at a hill station, who was attacked with symptoms of irritant poisoning, and rapidly died, after eating kuddo, a generally inoxious pumpkin. In May, 1871, there appeared in the *Indian Medical Gazette* two cases of poisoning by *Cucurbita lagenaria*, a wild variety of white pumpkin or bitter cucumber. Not long after I had made a note of this, I came unexpectedly upon the passage * in which we are told that Elisha prepared to seethe pottage for the sons of the prophets, "And one went out into the field to gather herbs, and found a wild vine, and gathered thereof wild gourds his lap full, and came and shred them into the pot of pottage: for they knew them not. So they poured them out for the men to eat. And it came to pass, as they were eating the pottage, that they cried out and said, O thou man of God, there is death in the pot." Here were two absolutely new cases of the present day, standing quite alone and needing confirmation, distinctly capped and paralleled by the very oldest case of poisoning on record!

To the occupations which I have recommended we may justly apply the words of Cicero;—"Hæc studia adolescentiam alunt, senectutem oblectant; secundas res ornant, adversis perfugium ac solatium præbent; delectant domi, non impediunt foris, pernoctant nobiscum peregrinantur, rusticantur."

These remarks are not intended for medical men exclusively.

* 2 Kings IV, 38.

In their general drift they have application to men of all professions who live by a combination of physical toil with mental effort.

"Cease to work on Sundays," was Johnson's dying adjuration to Joshua Reynolds. Medical men are, of course, unable to command any given moment of their time; still, all those who wish it can generally make Sunday a day of rest. It is clearly indispensable that the medical man shall be an early riser, and, when in large practice, he is rarely allowed to waste time in sleep; but, whenever he can get it, his sleep should be quite *ad libitum*. I could never understand a judge who boasted that he restricted himself to five hours' sleep; but it appeared to me that the singular irritability and want of dignity and equanimity which he displayed on the bench were largely attributable to this cause. The greatest and most laborious ruler of India in modern times, Lord Dalhousie, considered that hard study or intense mental labor of any kind cannot be habitually maintained longer than six hours. When more is attempted, the result is muddle. Of one practical fact there can be no doubt: he who works and thinks hard all day cannot afford, systematically or frequently, to spend half the night in any frivolous amusement or intense study. Many elderly men lose their reserve force and break down in vainly attempting these modes of life.

I ought perhaps to apologize here to those who have listened to these details with attention, which is, at once, so courteous and so kind, considering that they, admittedly, have no taste for antiquarian pursuits. Let me entreat them to recur to the advice conveyed in the first part of this address. Let them allow themselves, throughout their active life, a fair amount of rest and recuperative leisure, and search diligently for some well chosen and appropriate mode of occupying that leasure, and employ it, as they work out their professional duties, in a manner becoming the noble calling of enlightened scholars, gentlemen, and physicians.

DR. FERDINAND COLETTI, Professor of Therapeutics in the University of Padua, died recently. Dr. Colletti was the first of the most zealous apostles of cremation in Italy, and he desired, in his will, that his corpse should be transmitted to Milan to be cremated there. His wish was carried out, and the body was burned in the presence of a large assemblage of citizens and of his colleagues, and of political and scientific authorities. Many orations were pronounced in his honor. The ashes were enclosed in a beautiful glass urn, and presented to his family at the expense of the Italian Cremation Society.

THE thirty-second annual session of the Medical Association of Georgia, was held in Thomasville, on April 20 and 21, 1881. The following are the officers for the ensuing year: President, William F. Holt, Macon; First Vice President, Eugene Foster, Augusta; Second Vice President, T. M. McIntosh, Thomasville; Secretary, A. Sibley Campbell, Augusta; Treasurer, K. P. Moore, Forsyth. The next session will be held in Atlanta on the third Wednesday in April (19th) 1882. Communications should be addressed to A. Sibley Campbell, Secretary.

ANATOMICAL PLATES.—Messrs. G. P. Putnam & Sons desire to state that, through a clerical error, the name of the late Prof. GRANVILLE SHARP PATTISON, as translator and editor of the edition of MASSE'S ANATOMICAL PLATES, issued in 1845, has been omitted from the title page of their present edition. They would also explain that Prof. RANNEY'S labor as editor embraced such alterations of the plates and text as was required to bring these fully up to date, together with the preparation of important new material in the way of diagrams and descriptive text.

Please paste over preface of "Anatomical Plates" of Masse, and oblige
A. L. RANNEY, M.D.

A larger portion of this preface should be accredited to the late Prof. PATTISON, a former editor of these plates, to whom due credit has been omitted by an oversight on the part of the present editor.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, June 6-20.
West Chicago Medical Society—Mondays, June 13-27.
Biological Society—Wednesday, June 1.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

SUPPLEMENT.

THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLII.—JUNE, 1881.—No. 6.

THE AMERICAN MEDICAL ASSOCIATION

PROCEEDINGS OF THE THIRTY-SECOND ANNUAL MEETING,

AT RICHMOND, VIRGINIA.

FIRST DAY—TUESDAY, MAY 3, 1881.

The American Medical Association met in its Thirty-second Annual Session at 11 o'clock A. M., at Mozart Hall, Tuesday, May 3, 1881.

The Association was called to order by Dr. Frank Cunningham, Chairman of the Local Committee of Arrangements.

Dr. H. D. Holton, of Vermont, Vice President of the Association, occupied the chair, with Dr. William B. Atkinson, of Philadelphia, Pennsylvania, acting as Secretary.

The exercises opened with prayer by the Right Rev. J. J. Keane.

Dr. Cunningham then in appropriate language introduced Governor F. W. M. Holliday, who had consented to deliver the address of welcome.

The address of Governor Holliday was, like all of his efforts, worthy both of the man and the occasion. In fitting terms he alluded to the importance of the great gathering, and complimented the physicians of the country upon the high tone and usefulness of the profession, and bade every member a warm and heartfelt welcome to the capital city of the Old Dominion.

The Secretary next called the roll of members who had registered.

A motion to dispense with the calling of the roll was laid on the table.

The names read were, on motion of Dr. Toner, all confirmed in their membership.

On motion of Dr. Brodie, the ex-Presidents were escorted to seats on the platform.

Dr. Cunningham, from the Committee of Arrangements, read to the Association invitations from the Commercial, Richmond, and Westmoreland Clubs tendering the hospitalities of these Clubs to the members during the session of the Association. The invitations were accepted, and, on motion of Dr. D. J. Roberts, the thanks of the Association tendered for the same.

After hearing the report of the Committee of Arrangements, the Secretary read letters of regret for non-attendance from ex-Presidents J. Marion Sims, of New York, and W. O. Baldwin, of Alabama; Vice-Presidents W. H. Anderson, of Alabama, H. Carpenter, of Oregon, and Dr. F. Pratt, of Michigan, member of the Judicial Council.

At 12 o'clock M., Vice-President Holton introduced Dr. John T. Hodgen, of St. Louis, the President of the Association, who proceeded to deliver the annual address.

THE PRESIDENT'S ADDRESS.

Colleagues of the American Medical Association:

In obedience to the time-honored usage of the Association, I shall ask your attention to a few thoughts, such as may be supposed to befit the occasion of our coming together for our annual

meeting. But, first, in the name of the Association, let me express to the local committee of arrangements, and to the medical professors and the citizens of Richmond, our grateful acknowledgments of the hearty reception which has been tendered by your Governor in this, the capital city of the oldest of American States, the historic mother of American Presidents.

The recent progress of medical science has been marked by exceptional strides, both in the direction of extending the domain and perfecting the methods of operative surgery. He alluded to the progress in medicine, and then proceeded to bestow a passing glance upon some of the causes which militate against the success of the surgeon by sometimes betraying him into error, again embarrassing him in his choice between conflicting plans of treatment, and too often frustrating his best directed efforts. He divided surgeons into those seeking to perform every practicable operation, and the other, avoiding operations whenever it is possible. The former include the bold, the enterprising, the ambitious and the reckless of our profession. The other, the timid, the conservative, the cautious and the procrastinating. The former class is largely made up of young men—enthusiastic and full of inspiration, caught from the professors whose task is to make the way clear and easy, students of the current medical literature, which teems with new suggestions and is crowded with reports of remarkable cases and wonderful operations, generally ending, or reported as ending, happily to the patient and to the great credit of the reporter.

Simon excises a kidney, turns an aberrant ureter into the rectum, touches, through the natural passages, a stone in the kidney; and immediately hundreds of ambitious surgeons are seeking kidneys to excise, ureters to turn, and renal calculi to touch. Battey removes an ovary for the relief of an obscure nervous disorder; and forthwith ovaries are removed for almost every imaginable nervous disorder. Billroth cuts out a cancerous larynx, or a diseased pylorus; and at once a demand springs up for similar cases, and the daring operations are repeated in all the four quarters of the globe.

The second class is recruited largely from the first, and often

only after many lessons of bitter disappointment drawn from the experience of many and grave disasters.

The practice of seeking cases for operation and of operating by blindly following the dicta of authority, without a full understanding of the condition to be relieved, is well illustrated by two surgical procedures which have been resorted to, with far too great frequency, as I believe, by gynæcologists during the past and present decades. Of one of these procedures, the division of the cervix uteri for flexures, an operation without proper foundation in pathology, which was generally useless and often dangerous, and which always entailed deformity, Emmet speaks in the following energetic language: "Since the practice of indiscriminate division of the cervix was first introduced by Professor Simpson, more malpractice has been perpetrated throughout the world in the name of this simple operation, than from any other procedure known to the profession."

So, too, great wrong has been done in seeking to follow the lead of Dr. Emmet in the performance of operations for the cure of lacerations of the cervix uteri. From the large number of operations reported by many practitioners, it may be fairly concluded that it has often been needlessly and unprofitably performed.

A simple knowledge, however accurate, of the parts involved, does not qualify one to make an intelligent prognosis, to decide upon the advisability of an operation or treat judiciously even such diseases as consist mainly in pathological changes in the part in question—to say nothing of the many cases in which subjective symptoms are referred to a particular part, when they are in fact but the local expression of some remote or possibly constitutional trouble.

Herein lies a danger which threatens the profession, through the adoption of exclusive specialties by those not well trained in general medicine. It cannot be denied, that the early and exclusive study of the affections of a part tends to narrow the intellectual grasp and powers of the man who yields to the influences incident to such partial training. In the best sense, a specialist is a physician and something more; in the worst, he is something else and something less than a physician.

The rapid progress made of late years in the precision and perfection of regional surgery, the brilliant triumphs secured and the almost unlimited possibilities attained, combined to tempt surgeons to reckless operative procedures. Captivated by the knowledge that almost every region of the body has been and therefore may be invaded without necessarily destroying life, we are in danger of overlooking the general influences which are ever present to modify and control the results of local injuries.

The local conditions calling for surgical operations are, besides, more easily studied by the young surgeons than the general conditions which may forbid them, and are more fully discussed in the text books and college lectures. To learn what to do and how to do it, is always more attractive to the student than to be told what not to do. And this is especially true if the thing not to be done is something which he believes he can do well.

On the other hand, we recognize certain diseases and conditions, in which, however defective our knowledge may be in some respects, we are at least certain that very early operation is indicated, both as involving a minimum of risk, and as offering the best, or perhaps only chance, of saving life or of averting great calamity. In this class, we include tumors, benign or quasi-malignant.

The propriety of the early removal of quasi-malignant tumors is nowhere better illustrated than in the case of sarcoma of the choroid—a disease which, by the aid of the ophthalmoscope, can now be positively and accurately diagnosticated at a very early stage of development. Left to itself for a few months, it will surely break through the outer coat of the eyeball, and soon develop into a fatal and hideous tumor of the orbit, complicated probably with sarcomatous deposits in distant parts. Removed at an early stage by enucleation of the eyeball, it may never return *in situ*, and life may be indefinitely prolonged.

In rodent cancer and in epithelioma, we now expect a cure by excision, provided it is done early enough; and even in mammary scirrhus, removal of the breast has exceptionally effected a permanent cure.

Sympathetic ophthalmia affords a striking instance, which may

result either from not recognizing a danger in season, or from a want of promptness in dealing with it.

Scarcely any fact is better established than that a high condition of health is not the condition which best fits the patient to bear the forced confinement, the impaired digestion, the imperfect assimilation and the perverted excretion which follow any serious bodily injury or grave surgical operation. In such patients, we have learned to dread surgical fever, and active inflammatory complications, leading possibly to septicæmia, and ending, it may be, in death.

So, too, that standard of health marked by an unusual ability to bear continuous mental strain, taxing the digestive and assimilative organs to their utmost, is not that under which the effects of shock are best borne, whether it be the shock of a severe injury or of a capital operation.

On the other hand, a man whose life is not marked by excessive tissue change, whose digestive, assimilative and excretory organs are not unduly taxed, and whose nervous system is not attuned to conditions of intense mental strain, is likely to bear well the shock of injury and the nutritive changes incident to prolonged confinement. Again, the chronic sufferer, whose nutritive and excretory organs have become educated, so to speak, to make good the excessive waste incident to any continuous drain, is often much better fitted to endure a grave surgical operation than is the new recruit of the army of sufferers. Very often the surgeon is compelled to act in the presence of morbid conditions of the most complex character.

Thus in strumous manifestations in connection whith chronic, suppurative disease of the joints and bones, the profuse discharge makes the most exacting demands upon the nutritive functions, while the close confinement, pain and loss of sleep unite to destroy the appetite and impair digestion and assimilation. In such a condition (so clearly set forth in the case of hip disease by our distinguished ex-President, Dr. Sayre), we recognize in the cachexia the effect rather than the cause of the local trouble; and by resection or amputation of the offending limb, we may arrest the exhausting discharge and restore the disturbed balances between the processes of nutrition and waste.

The dangers in certain depraved conditions of the body from injudiciously delaying an operation are forcibly depicted by Robert Barnes. He says: "My experience leads me to conclude that, in cases of urgent disease, there is more frequent occasion to regret having delayed the operation too long than having had recourse to it too soon.

"When, through obstinate vomiting, for example, nutrition has long been arrested, the starved tissues craving for supplies and falling into disintegration, feed the blood with depraved and noxious materials; the system feeds upon itself and poisons itself; the poisoned blood irritates the nervous centers, and these centers, wrought to a state of extreme morbid irritability respond to the slightest peripheral uterine or emotional excitation. All nervous energy is thus diverted from its destination, and exhausted in morbid action. Irritative fever ensues; the pulse rises to 140 or more; no organ of the body is capable of discharging its functions; for the pabulum of life is cut off at its very source. At this point, labor, whether it occurs spontaneously, as it often does, or be induced artificially, comes too late. The tissues are altered, the powers are impaired beyond recovery, and death soon follows."

Shock may act profoundly upon the whole economy. Arrested digestion, perverted assimilation, suspended secretion, and limited excretion may occur to vitiate the nutritive fluids of the body. Elements which should go to feed the tissues and provide materials for secretions remain unappropriated; excrementitious substances accumulate, and the body becomes gradually saturated with effete matters.

Operations for the relief of patients with old and tight urethral strictures, complicated with disease of the kidneys, afford illustration of the serious consequences which may follow shock in an already diseased organism. Internal division or forced dilatation of such a stricture may be attended with a degree of shock sufficient to arrest for the time the heart's action; or it may so act upon the whole nervous system as to check secretion and excretion generally. The diseased kidneys may thus cease altogether to perform their functions, leading to speedy death from uræmic poisoning; or, in the case of less aggravated renal

trouble, the blood, becoming surcharged with morbid material, may no longer suffice to maintain the nervous centers in effective action; assimilation, secretion and excretion may all fail, and death ensue from septicæmia.

Anæmia, resulting from sudden loss of blood, is particularly unfavorable to surgical interference; besides the actual deficiency of blood, the diminished tension of the blood vessels favors the absorption of septic products at the site of the injury, while the blood, diluted and vitiated by the additional fluids absorbed from the tissues, becomes loaded with effete organic matter, ready to take on putrefactive changes. A familiar instance of susceptibility to septic influences after a large hæmorrhage will occur to every obstetrician who has learned how often metritis and septicæmia follow excessive *post-partum* hæmorrhage.

Besides want of space, another reason for the omission of reference to other conditions which may demand or forbid a resort to the knife, is our want of exact knowledge. Especially is this true of those constitutional conditions we term diatheses. Using the word in its broadest sense, diathesis is any condition varying from the normal standard which disposes to the development of disease in the presence of trivial exciting causes. Other conditions which we habitually include under diathesis are themselves diseases—such, for instance, are scurvy, the scrofulous habit, tuberculosis and syphilis. A diathesis may be transient or permanent, retrogressive or progressive; it may be so marked in its manifestations as to force its recognition upon even the most careless observer, or it may be so obscure as to elude the most painstaking scrutiny; and yet it may respond immediately and disastrously to an injury. In acknowledging our ignorance regarding the precise nature of such variations from the normal standard as we believe must exist in diseases like scurvy, scrofula, tuberculosis, etc., we recognize the existence of wide, uncultivated fields, rich, no doubt, in promise to future investigators. A more perfect animal chemistry, a more thorough histology, and a deeper research into the possibilities of pathological change, will doubtless throw many a ray of light into regions where darkness is now too dense for our vision to penetrate. To these fields coming generations of physicians will surely be attracted, in the

faith that as man advances in knowledge, and approaches somewhat nearer to the comprehension of the perfect wisdom which designed the wonderful physical organism, through which he is brought into relation with the world around him, he will be enabled to solve more and more of the difficult problems which now perplex and baffle us, and will gradually raise medicine to a position more nearly akin to that now accorded to the exacter sciences.

On motion of Dr. Brodie, the thanks of the Association were tendered the President for his address, and a copy of the same requested for publication.

REPORT OF THE FOREIGN DELEGATES.

Dr. Joseph H. Warren, of Boston, Chairman of Committee of Foreign Delegates Abroad, presented his report. The reading of the report was deferred, and it was referred to the Publication Committee.

Below is an abstract of this report:

One of Dr. Warren's most important and pleasing duties was his attendance upon the 48th annual meeting of the British Association held on August 10, 11, 12, and 13th, in Cambridge. The meeting was very fully attended by the most noted and renowned men in the English profession, and some from other countries, and was said to be one of the largest and best gatherings of the kind held since the organization of the Association. Dr. Warren presented an abstract of the proceedings of the meeting and a short résumé of the different addresses. Among the more prominent were the address on Surgery, by Timothy Holmes, on "Fergusson and Conservative Surgery—Excision of the Knee and of the Hip;" the address in Physiology, by Michael Foster, on "Relations of Physiology and Pathology—The Professional Aspects of Physiology," and the address of Sir James Paget on "Elementary Pathology." The various sections were fully attended. Dr. Warren spoke of the address of Sir Henry Thompson, entitled "Remarks and Progress in Stricture of the Urethra," and also an address by the same surgeon upon the "Removal of Stone by Lithotrity." Dr. Warren himself showed some twelve or fifteen of his newly devised surgical instruments, and read a

paper on "Operations for Cure of Hernia by Subcutaneous Injections," which seemed to be well received. In the Section of Physiology, there was an interesting discussion by Preyer, Brown-Séquard, Prof. Bowditch, of Boston, Dr. Beard, of New York, and others, upon that most recent study, "Sleep and Hypnotism." In Obstetric Medicine, the address by Playfair on "The Teaching of Obstetric Medicine" was very opportune, as showing that the instruction in this department should be much more thorough than they are wont to be. In the Section of the Diseases of Women, Dr. M. A. Pallen, of New York, read a paper on the "Etiology and Treatment of the Laceration of Cervix Uteri," a subject in which the English seem to display a want of knowledge.

After announcements by the Secretary of meetings to be held in the afternoon, the meeting adjourned till 10 o'clock Wednesday.

SECOND DAY—WEDNESDAY, MAY 4, 1881.

The Association was called to order at 10 o'clock by President John T. Hodgen.

The exercises were opened with prayer by Rev. Dr. Peterkin, of St. James' Church.

The Secretary announced the names of the Committee on Nominations. This committee immediately retired to Wilkinson's Hall for organization and for the performance of the work assigned to it.

The Association next considered

THE SPECIAL ORDER.

Action on amendment to Code of Ethics, Article I, paragraph 1st, add "and hence it is considered derogatory to the interests of the public and honor of the profession, for any physician or teacher to aid in any way the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine."

Dr. Cohen, of Philadelphia, called for the reading of the entire paragraph with the amendment.

After the Secretary had read the paragraph with the amend-

ment, Dr. Marcy moved to lay the amendment on the table. The motion was lost—ayes, 74; noes, 76.

Dr. Dunsten, of Michigan, addressed the Association in opposition to the amendment.

Dr. Davis, of Chicago, moved that the amendment be the special order after the addresses to-morrow. Dr. Howard, of Maryland, moved that the matter be indefinitely postponed. The substitute was rejected, and the motion of Dr. Davis adopted.

Dr. John H. Packard, from the Committee on Journalizing Transactions, presented a report, which recommended the establishment of a weekly journal as the organ of the Association.

The report closed with the following resolution:

Resolved, That the President be authorized to appoint a committee of five to digest and report in detail as soon as practicable upon the time, place, and terms of the publication of such a journal, to elect an editor, fix his salary, and to arrange all other necessary details.

The report was discussed by Doctors Davis and Toner. Dr. Davis moved to strike out so much of the resolution as related to the election of an editor. Adopted.

Dr. Toner moved that the Secretary and Treasurer be added to the committee. Adopted.

Dr. Toner offered a resolution instructing the Secretary to publish with the forthcoming report of the transactions of the Association, the index of the proceedings of all the previous meetings. Adopted.

REPORT ON NECROLOGY.—Dr. J. M. Toner, from the Committee on Necrology, made the following report:

"In presenting the report of the necrology of the members of the American Medical Association to this meeting, it is but simple justice that I acknowledge the valuable assistance I have received from associates on the committee resident in the several States. While the Society has reason to be grateful for the fidelity with which some of the members have discharged the duties assigned them, there are a few who have totally neglected the obligation they owe to this body, and by such a course defrauded the dead of that respectful notice which this Society has in its wisdom deemed proper, and made provision to give every member who has preserved an interest in it to the end of his life.

Notice in the necrological report of the American Medical Association, in point of honor, may be considered a sort of Westminster Abbey interment or monumental record among the highest medical worthies in the United States, and is a cherished privilege that is assured under the rules to every member of the Association. This right to a notice in the report can only be lost by some unworthy act of the member himself. We should be just to the dead, and every member should feel a personal interest in the matter, and see that a respectable memorial record is neither neglected too long nor entirely omitted. The revised list of all members who at any time attended a meeting of the Association with the years of his attendance given in the volume for 1880, and an alphabetical list which accompanies this report of the names of all the deceased physicians who have had notice taken of their death by this body from its organization, will make the task of performing that duty on the part of the Committee of Necrology in the future an easy one.

"One error I find to be prevalent in the minds of my associates, which is, that members consider it their duty only to prepare notices of those who may die within the year for which they are serving on the committee, while the facts are that all members who have died in good standing, whether in actual affiliation with this body at the time of their demise or not, are legally, under the rules, entitled to notice, no matter how many years have elapsed since their death.

"I trust the index accompanying this report of deceased physicians who have received notices and whose names are scattered throughout its many volumes of transactions, will prove to be of convenience and value in making whatever has been published by us on the subject available. If I may be indulged in the remark, it is my belief that a subject index to all the articles contained in the complete series of our transactions would render them much more valuable to the student and the public than they are at present."

After the announcement of meetings and other notices by the Secretary, the Association adjourned until Thursday at 10 o'clock A. M.

ADDRESS OF DR. WM. PEPPER, CHAIRMAN OF SECTION ON PRACTICAL MEDICINE.—I have found it difficult to comply with the rule providing that the chairmen of the several sections shall read addresses on the advances and discoveries of the past year in the branches of science included in their respective sections. The past year, as regards the progress of practical medicine has been marked, as far as I know, not so much by the announcement of

new and important truths, as by the accumulation of a vast number of carefully observed facts of original investigations. These have already been presented to the medical world, in the most accessible forms, in the various abstracts of medical sciences; and to attempt to summarize and reproduce them here will be an undertaking scarcely worthy of the audience I have the honor to address.

It has seemed to me, therefore, that it ought not to be inappropriate to offer a few practical remarks on some one of the medical topics that have occupied most attention of late. It may be safely stated that for some years the largest share of study has been devoted to those great general morbid processes which are grouped under the classes of specific fevers as zymotic diseases. This is not astonishing. The wide prevalence and fatal character of some of these affections demand incessant efforts to detect and remove their causes, to limit their spread, and to modify their course. The enthusiastic zeal with which the study of all pertaining to public health has been taken up of late, and the hopes that are entertained widely, and probably with increasing justification, that this study will lead to a material decrease in the prevalence and fatality of these diseases, fully accounts for the extent to which the minds of medical men are occupied with the subjects of infection, septicæmia, zymosis and its like. The theories upon these subjects have a fascinating interest (the methods of treatment based upon them are often ingenious and plausible), and it is most agreeable to have the mind drawn away from the closeness of the details of individual cases of disease to these broader fields of thought. It is true that there is a wide difference between the amount of fluent writing and talking about septic processes and zymosis and the amount of positive and demonstrable knowledge we have as yet acquired of these recondite matters. The terms and hypotheses that have been devised by investigators to assist them in their efforts to fathom the nature of epidemics have become the common property not only of the rest of us general practitioners, but of the public at large, of the sanitary engineer and of the sanitary plumber; and the subject of blood poisoning has rapidly become one of the fashionable topics of the day.

I speak with no lack of due respect and admiration for the earnest workers on these enormously difficult and important questions, and with no want of appreciation of what has already been done, or of hopeful confidence as to the triumphs of future investigators. But as a general practitioner, I confess that I have been seriously impressed with the danger that follows from the too ready adoption of the popular theory of blood poisoning

to explain almost every case of obscure or anomalous character. It will lead to mere scientific expectancy, and to the use of routine methods, to the disregard of that watchful and minute care in adopting remedies to the morbid conditions and the functional derangement present, that constitutes the sole basis of rational and successful practice. Let us consider this important matter somewhat more in detail. In the first place, it is clear that there are some diseases that may be taken as examples of pure specific zymosis, to employ the current term. Typhus fever occurs, to us, as perhaps the best instance of the kind. In uncomplicated cases of typhus fever we have an intense disturbance of general nutrition, without any local lesions of the solids that modify materially the course of the case. The symptoms are the result of the action of a specific cause; no antidote to that poison has yet been found; experience has shown that it will be eliminated from the system in a certain definite time; and therefore it is clear that our treatment resolves itself into the use of carefully adjusted means for supporting the patient's strength until the elimination is completed. If any one symptom attain dangerous prominence, we attempt empirically to moderate it.

Again, it is clear that if we possessed a perfect antidote for the poison of a zymotic disease, our medicinal treatment would resolve itself into the administration of that antidote in suitable doses and forms, with due regard to the state of the digestive organs. It seems as yet presumptuous to hope that we shall ever possess such antidotes for the acute infectious diseases, as we have for syphilis and malaria. But I cannot omit a passing reference to the remarkable results that have recently been observed to follow the use of large doses of bi-chloride of mercury in diphtheria. The original paper that brought this subject to my notice was by Dr. ——, of Alleghany City, and was published in the *Transactions of the Medical Society* of Pennsylvania. The extraordinary statements there made have been confirmed by the experiences, as yet unpublished, of several competent observers. A recent experience of my own was to me so striking that I may be pardoned for alluding briefly to it. I saw last month, with Dr. T. J. Turner of Philadelphia, a child of five years old on the fifth day of a grave diphtheritic croup. Beginning with marked pseudo-membranous deposit in the tonsils, croup had supervened on the third day, and suffocation soon became imminent. Alum emetics secured the discharge of several unusually large thick sheets of membrane, evidently from the whole length of the larynx. But slight relief followed, and on the fifth day it was clear that the membranous exudation occupied the bronchi. She was repeatedly made to breathe the vapor of slaking lime;

emetics were given when suffocative symptoms became very urgent; quinia, chlorate of potash and senega were given internally; milk and brandy were given as freely as possible. By the seventh day death seemed unavoidable. Aphonia had existed for five days; nourishment was refused almost entirely; the pulse was over 100, very small and feeble; respirations were seventy, and with shallow gasps. There was marked dullness around the roots of each lung and impaired resonance over both lungs; and the respiratory murmur was scarcely audible and mixed with feeble *râles*. Glandular enlargement had been slight; but the systemic infection was indicated by decided albuminuria, with quite numerous granular epithelial casts. The extremities were cool; the lips livid; the expression indicated advanced asphyxia. Dr. Turner and I agreed we had never seen a patient recover from such a condition; but it was decided to administer bi-chloride of mercury 1-32 grain every second hour, giving in solution in elixir of bismuth and pepsin (as recommended in the paper), each dose also containing 2 drops tr. nux vomica. No other treatment was used. In the next forty-eight hours ½ grain of corrosive sublimate was taken. No movement of the bowels occurred, and not the least irritation of the stomach; on the contrary, a willingness to take nourishment began to reappear; and by the end of that time it was evident that the exudation was softening and that more air was entering the lungs. The same prescription was continued with gradually decreasing frequency for a week, at the end of which time convalescence was fully established; the urine gradually became normal; and the child is now in perfect health.

The extraordinary tolerance of such large doses of bi-chloride of mercury, and the rapid and progressive improvement from so desperate a state, make us regard this as the most remarkable case we have ever witnessed, and will certainly induce us to give further trial to this remedy given in the same manner in cases of grave diphtheritic infection.

The most serious practical injury that seems to me to follow the excessive prevalence of the doctrine of specific self-limited diseases, is the tendency to underestimate the importance of local lesions, and of peculiarities of individual constitutions, as explaining the symptoms and determining the course of diseases. Even in typically specific diseases, as, for instance, in typhoid fever, observation convinces me daily more and more strongly that it is impossible to get the best results from treatment without paying the most careful attention to these questions. There are some local lesions, such as croupous pneumonia, or meningitis, that may appear as complications of specific fevers, which

are much less apt to be overlooked than catarrhal lesions of the mucous membranes. Nor is there any danger of being suspected of an attempt to revive the exaggerated but most suggestive doctrines of Broussais by dwelling strongly on the enormous importance of these catarrhal lesions, both as complications of specific diseases and as the essential cause of many cases that are mistaken for specific febrile affections. Rindfleisch certainly does not exaggerate when he says that "the larger part of all the diseases to which humanity is liable, consists of catarrhal affections of mucous membranes, or of disorders complicated by them." In no other country in the world, and among no other people, can this statement be more clearly true than it is here among ourselves. Our physical characteristics and the conditions of the American climate, or climates render this incontestable. But to realize this truth, it is necessary to consider the catarrhal affections in their broadest sense. The conditions that attend acute catarrh are congestion and swelling of the mucous membrane; enlargement of its lymphatic follicles; increase of and changes in its secretions. It is indeed difficult to appreciate clinically more than the last of these conditions, and the term "catarrh" applies strictly only to it. But while in many cases the secretions are excessive, as in cholera morbus, or dysentery, or acute bronchitis, and constitute the most prominent symptoms, there are many cases of catarrhal inflammation where the secretions are perverted but not excessive, so that the presence of the lesion cannot be recognized by any so-called catarrhal discharges. These are cases where, owing to individual peculiarity, or to the localization of the irritation upon some special anatomical elements of the mucous membrane, the amount of muco-serous discharge bears no proportion to the amount of epithelial proliferation, or grandular swelling. One of the best illustrations of this is the cellular catarrh of the lung, a circumscribed catarrhal pneumonia, often involving small areas near the roots at the apex, or indeed in any part of the organ. It is an excessively frequent affection, and I have no hesitation in expressing my belief that owing to the frequency with which it is overlooked, it constitutes the most common starting point of that most common form of consumption, catarrhal phthisis.

There may be scarcely any expectoration, and a cough that is not very annoying, and that may readily be regarded as merely nervous or irritative. Yet the capacity of localized catarrh to induce marked symptoms of constitutional disturbance, is admirably shown in these cases. There will very often be observed a distinct febrile movement of an irregular and often of

a distinctly intermittent character; and in consequence of the want of symptoms of marked pulmonary irritation, such cases are continually being mistaken for malarial fever, and being treated with so little rigor that, although the fever subsides, the local lesion is left smouldering till renewed congestion awakens fresh activity, and till slow cheesy transformation occurs and paves the way by septic absorption to the development of tuberculosis. Nothing but an unvarying practice of thorough physical exploration of the lungs in every case of acute disease will obviate these fatal oversights; and I have no doubt that the extreme readiness with which it is customary to regard irregular febrile attacks as malarial, has contributed powerfully to prevent this critical search for slight local lesions in such cases.

The fact that circumscribed catarrhal irritation of a mucous membrane, unattended with any considerable amount of catarrhal discharge, is able to excite marked febrile action, seems to me a matter of the greatest practical importance.

The theory that increased tissue metamorphosis and chemical interchange are the essential causes of and commensurate with the elevation of temperature in febrile diseases, has been the prevalent one for some years past. According to this, it is easy to explain the fever that attends any inflammatory lesion of considerable magnitude. But practically it has seemed to me to be the custom, if some inflammatory center of adequate extent could not be detected, to suspect that the fever was a specific one, due to the admission of an infectious principle into the system, and blood-poisoning, and that the increased chemical changes in the blood were the cause of the febrile movement. This is merely another illustration of the present exaggerated tendency to regard diseases as specific, to which allusion has already been made; and in the hands of certain investigators, chiefly of the German school, whose writings have been so indefatigably and indiscriminately thrust on the mass of American medical students, it has led to methods of practice that appear to me superficial or irrational and mischievous. The degree of fever heat has become a definite entity, to be determined of course by repeated thermometric observations, and to be accepted as dictating absolutely the line of practice. The system is to be supported by abundant food and free stimulation, and the fever reduced by measures proportionate in vigor to its intensity, and if these two indications can be successfully complied with till the self-limited stadium of the disease has expired, treatment has been successful. It matters little which may be the particular antipyretic method that is associated with each degree of fever heat, whether the patient is to have a wet pack or a cold bath so soon as his temperature

reaches 103° or 104°, whether these may be postponed till it reaches 104°, that against which clinical experience protests is the one-sided and arbitrary nature of all such rules. We owe very much to recent observers, among whom Walton and Witherle, of our own country, rank prominently, for reasserting the complex and valid nature of fever, and thus furnishing a scientific basis more in accordance with enlightened clinical observation. But it is chiefly from the elaborate and masterly experiments and reasoning of H. C. Wood, whose studies on the pathology of fever, have just been published by the Smithsonian Institute, and constitute in my judgment by far the most valuable contribution of the past year to scientific medicine.

It is impossible to assert that the positions assumed in this memoir have all been demonstrated as yet; but I think it will be generally admitted that it has been shown that the degree of bodily temperature in fever depends, in greater or less measure, upon a disturbance in the natural play between the functions of heat production and heat dissipation, and is not an accurate measure of the intensity of increased chemical movements of the tissues." (Wood, op. cit.) It further appears altogether probable that an inhibitory thermic center exists, and that this may be so depressed by morbid influences that tissue changes and heat production are increased; while at the same time, owing to the disturbance of the vaso-motor centers, the dissipation of heat is reduced. Some such complex mechanism, involving essentially the co-operation of the nervous system, certainly seems necessary to account for the peculiarities that fever presents in different individual cases of disease, and which call for more rational treatment than is recommended in most of the current writings on febrile diseases. Not only may the depression of the inhibitory center be caused by the circulation in the blood of special morbid matters, but it seems clear that reflex irritation from some centers of local disease may be either so intense or so prolonged as to produce the same result. Moreover, it seems clear that such great differences exist between different individuals in the assisting power of the nerve centres in this respect, as in all others, that very different degrees of fever may result from an equal amount of local disease, or from an equal amount of septicæmia, and that the signification and therapeutic indication of given degrees of fever must vary correspondingly. In a case of typhoid fever, for instance, the temperature rises by the eighth day to 103° or 104°, and the pulse to 110 or 120 deg. If this be the result of a severe zymosis with comparatively slight catarrhal irritation of the gastro-intestinal mucous membrane, and the subjects enjoy good nervous tone, large doses of quinine or

salicylic acid, full amount of suitable diet and stimulants, will doubtless be appropriate treatment: or if these fail and the temperature continue to rise, the use of cold water externally is desirable.

Broussais, who wrote his classical work on Chronic Inflammation, before the distinction between typhoid and typhus fever was recognized, and whose practical experience was almost exclusively with typhoid, naturally fell into the error of regarding lesions of the intestinal mucous membrane as essential parts of all fevers; and his judicious principle of treatment was carried to an extreme by his zealous followers, so that the restricted diet and inert medication that was recommended in febrile diseases justly secured for Broussaisism, as it was termed, its rejection by the succeeding generation. But his own teachings were not thus extreme, and they embodied a truth which has of late years been too much lost sight of under the influence of the modern theories of zymosis.

It was not uncommon fifteen years ago to see the steadily increasing aggravation of these symptoms, attended with failure of digestive power, diarrhœa and tympanites, as steadily pursued by progressive increase along the whole line of treatment in the amount and frequency of the doses of quinine, turpentine, carbonate of ammonia, alcohol, milk, and beef-tea, until finally scarce 30 minutes were allowed to intervene between the administration of some powerful drug or concentrated food.

But typhus fever stands pretty much alone in its freedom from local lesions or complications, so that the above theory of treatment is applicable to other zymotic diseases only with considerable modifications.

But in other instances I have found a temperature of 104° to 105° reached daily for 10 or 12 days in cases of typhus fever, where the nervous, circulatory and digestive symptoms all indicated that the septicæmia and the gastro-intestinal irritation were both mild, so that the high temperature was apparently due to a predisposition on the part of the nervous system to a failure of its heat-controlling function. In such cases no serious harm has resulted from the sustained high temperature, but a simple plan of treatment, with scrupulous care to allay the intestinal irritation as much as possible, and the avoidance of any other measures to reduce the temperature, has been followed by satisfactory recovery.

It is not to be wondered at that the exhausted nervous system should become paralyzed by the intense reflex irritation from the inflamed mucous membrane, aided by the poisoning of the blood that must certainly have been increased by filling the intestines

with organic matter that could not be digested, but must have putrefied and furnished the most fertile soil for the continued development of fresh specific typhoid poison.

So fully am I impressed with the important part played by the gastro-intestinal mucous membrane in causing or aggravating the symptoms of fever and other diseases, that I am convinced actual harm is often done by the use of remedies calculated to reduce temperature when due solely to the blood-poisoning, but which are too irritating to be tolerated by a morbidly sensitive mucous surface. Undoubtedly the more general introduction of the external application of water as a means of reducing excessive pyrexia has done much good, both directly and indirectly, by checking the use of less efficient and more dangerous antipyretics. But I am satisfied that if the diet and treatment in the early stage of typhoid fever are carefully adapted to the degree of gastro-intestinal catarrh present, the need of cool baths or other extreme means for relieving hyperpyrexia will be comparatively infrequent.

This is not the time to enter into a more full discussion of the management of this interesting disease. So many different remedies and special methods have been vaunted, and their results attested by formidable statistics, that we may well marvel that there is any longer room for difference of opinion on the subject. But it seems to me that so long as this or any other general disease is regarded as a specific entity and treated by any one special method, we shall never learn what is the lowest rate of mortality attainable. This result will be secured in regard to typhoid fever only when we employ a rational method adapted to the complex condition present and take cognizance of the peculiarities of the individual constitution, of the important local lesions, as well as of the blood-poisoning. If it is true that even in undoubtedly zymotic diseases the state of the mucous membrane, especially of the gastro-intestinal tract, has much to do with the production of the febrile symptoms, it is not surprising that we meet with many cases of typhoid fever that are dependent solely upon catarrhal irritation of this mucous surface. This catarrhal fever has been the subject of several well-considered articles during the past year, but I cannot believe that it is as well known as the frequency of its occurrence deserves. It arises from the ordinary causes of catarrhal inflammation, of which atmospheric conditions and changes are by far the most common, and runs a course resembling in many respects that of a mild typhoid fever. The duration varies from nine to twenty-one days; the febrile movement presents marked daily fluctuations; the tongue is coated, the abdomen rather full; the bowels

occasionally loose but more frequently quiet, though laxatives will provoke thin, light colored, unhealthy stools; appetite is lost and prostration is marked. Less commonly these may be associated with nasal catarrh with or without epistaxis, or bronchial catarrh.

The nervous symptoms are usually very mild, although in nervous subjects the irritation of the nerves of the gastro-intestinal mucous membrane may excite quite severe reflex nervous disturbances. The course of this form of fever may be greatly modified by treatment and diet, and it is not impossible that the statistics of typhoid fever are often vitiated by including a greater or less proportion of these simple catarrhal cases. The lesions must be of a moderate grade only, rarely going on to ulceration, since the prognosis is uniformly favorable. It is possible, however, by the continuance of bad hygienic influences, or by the use of too much and too strong food, and of free stimulation and of irritant remedies, to aggravate the catarrhal irritation, and that ulceration will ensue; the secretions will become more and more vitiated, and finally a secondary infection of the system may be established with grave symptoms of septicæmia.

Lastly, it is interesting to note the important *rôle* that catarrh of the gastro-intestinal mucous membrane plays in connection with many inflammations of other organs. For instance, in pneumonia, the morbid influence that has caused the pulmonary influx, frequently causes a catarrh of the mucous membrane that is really a distinct pathological condition, although it is customary to include its results among the symptoms of the major disease. Practically, however, it demands that our treatment shall be adapted to the complex condition present, and any plan of treatment that addresses itself solely to the process in the lung must often prove ineffectual if not mischievous. No one who has witnessed the excellent results of prompt treatment in acute pneumonia—including suitable depletion or counter-irritation, according to the grade of the disease and the constitution of the individual; carefully restricted diet; absolute rest; sedatives and resolvents given with a critical regard for the state of the gastro-intestinal mucous membrane; and quinia, given if need be by the rectum, so as to avoid increasing gastro-irritation—will hesitate long before accepting the theory that this is a specific, self-limited fever, the symptoms of which are the necessary results of the evolution of a special poison in the blood. When we reflect upon the policy of inaction that is wont to follow upon the adoption of such a theory in regard to pneumonia, to rheumatism, or to dysentery; upon the disregard of important local symptoms as being wholly subordinate to the hypothetical blood-poison; upon

the tendency to direct treatment solely to the reduction of the elevated temperature without due regard to the complete mechanism and varying significance of such elevation, and by means that may at times react unfavorably on the organic conditions present; it seems to me full time that a halt should be cried to the rapid spread of such speculative doctrines, which are open to severe criticism in theory, and which certainly seem opposed to the results of extended practical experience.

Important as are the varying expressions and relations of catarrhal inflammation in its acute forms, fully as great interest attaches to the study of chronic catarrhs. Close study of the cause of very many chronic diseases will convince us that they do not depend on one continuous morbid process, pursuing a slow and necessary course; but that the affected part, having had its power of resistance reduced by the original inflammatory attack, or by a series of congestions, has finally become the seat of chronic catarrhal changes, that are continually prolonged by the recurrence of fresh attacks upon more and more trifling provocations. This history has constant illustration from every mucous surface of the body; and the fuller clinical study of these chronic catarrhal processes, in the light of our modern pathology, would be replete with interest.

It must suffice here to allude to the remarkable results produced in persons of sensitive, nervous temperament by long-continued catarrhs, even of small extent. The prolonged local irritation ends by causing a morbid reflex excitability of the nerve centers with exhaustion of nerve power such as we are so painfully familiar with in gleet, in chronic uterine catarrh, in nervous dyspepsia. It is often one of the most difficult problems to decide, and upon the decision must depend the method of treatment to be pursued, whether an overtaxed or depressed state of the nervous system has been the initial trouble and has led to the impaired function of the stomach or uterus; or whether the long-continued local disease has induced the nervous disturbances. All are familiar with both of these relations; and the powerful effects produced on the nerve centers by prolonged local catarrhs serves to illustrate the important part that is undoubtedly played by acute catarrhal irritation of the gastro-intestinal mucous membrane in the production of the nervous symptoms of many inflammatory and zymotic diseases.

The injurious effects of chronic catarrh are of course most marked when, as in the case of catarrhs of the alimentary tract, they lead to mal-assimilation of food and consequent depravations of the blood. It is not necessary that such catarrhs should be attended with excessive secretion that would constitute a direct

drain upon the system. There may be a single partially soft stool daily; or more commonly there may be a single undigested stool once in two or three days, and during the intervals entire quiet of the bowels; (or finally there may be habitual constipation); and yet all the while a slow catarrhal process may be present in the epithelial layers and lymphatic follicles of the intestinal mucous membrane. In many cases of so-called nervous prostration, in many cases of causeless insomnia, the essential cause of the morbid condition will be found on close search to be a localized catarrh of some part of the alimentary tract, the cure of which by suitable diet, hygiene and drugs, will be speedily followed by restoration to health.

A second and sufficiently common result of chronic catarrh is the maintenance of a slow irritative fever. Allusion has already been made to the irregular, or intermittent fever that often attends acute alveolar catarrh of the lung, or acute catarrh of the gastro-intestinal mucous membrane, and which may readily be mistaken for malarial fever. I have not infrequently met with cases where an obstinate irregular febrile movement, which was regarded as the result of chronic malaria, but which had entirely failed to yield to antiperiodics, was in reality dependent on a gastro-hepatic or gastro-intestinal catarrh. This observation must be a familiar one to all who live in malarial districts; and yet I suspect that the importance of such catarrh, either as a complication of malarial attacks, or as causing a fever-simulating malaria, is hardly sufficiently recognized. It is not necessary to assume that in such cases, where catarrhal inflammation maintains an irregular fever, there is produced any septic matter to be absorbed, and to assist the poison through its action on the blood, or on the nervous system. It seems probable that the recent investigations as to the mechanism of fever will lead to a more simple explanation through the direct agency of the nervous system.

Allusion must finally be made to another and the most serious manner in which chronic catarrh influences the system to produce constitutional diseases. When the catarrhal swelling of the mucous membrane of a duct, as of the common bile duct, imprisons secretions rich in organic matters, decomposition is apt to occur, and poisonous matters are formed and absorbed, which give rise to serious septic fever, such as that with which we are familiar under the name of "hepatic" fever in the above-named pathological condition. More serious still are the consequences that arise when, owing to the anatomical arrangement of the lung, the catarrhal products themselves are retained, and undergo slow, cheesy degeneration. The enormous frequency of alveolar catarrh, the conclusive evidence of its tendency to terminate in

this way, and the demonstration of the connection between softening cheesy deposits and infection and tuberculosis of the surrounding tissues and of the system at large, are facts that give to this process a supreme practical interest and importance.

If in other diseases the tendency of the day to overlook the local lesion, and to assume the existence of a specific, self-limited constitutional infection or affection, is to be deprecated, far more dangerous and prejudicial is such an unwarranted assumption in regard to that large proportion of cases of phthisis which originate in catarrhal processes. There are undoubtedly rare cases of primary tuberculosis; there are also many cases where the constitutional tendency to the acquisition of tuberculosis is so strong that it is impossible to prevent its development from the most trifling provocation; there are still other cases where the first attack (of catarrhal pneumonia for instance) causes irreparable injury and leads inevitably to destructive phthisis; but my own experience points clearly to the fact I have already stated, that in the great majority of cases the disease begins as an acute circumscribed catarrh which, from inedequate treatment, from inherent weakness of tissue, or from neglect of hygienic rules so that similar attacks are allowed to recur and recur, pave the way for a chronic catarrhal process of which cheesy degeneration and ulcerative softening, with or without tuberculous infection, are the common and fatal consequences.

I can draw no other conclusion from careful and extended clinical observation than that in its early stages this, the commonest form of phthisis, can be largely controlled by treatment embracing hygienic, dietetic and medical means assiduously and persistently employed. It is of course evident that of any given number of such patients who are placed under fair hygienic conditions and trusted to the influences of nature alone, some proportion will recover, because, in them, after the removal of the depressing influences that have reduced the tone of the system and rendered it susceptible to catarrhal attacks, the tissues retain sufficient vitality to react and to prevent the extension of the local disease, and because no special tendency exists to tuberculous infection. But it seems equally evident to me that this proportion is capable of being greatly enlarged, and the duration of the disease greatly reduced, by the persistent employment of skillful and appropriate treatment. And further, it seems clear to me that to attempt to establish a theory that phthisis is a self-limited disease, in any special sense of the term, is to ignore the teachings of modern pathology and the results of clinical observation.

I have been led much further in these remarks than I proposed to go, but I have been drawn on by the sense of the great practical

importance, of a clearer recognition of the large part played by local catarrhal inflammation, in the causation of symptoms now too readily attributed to some hypothetical specific or zymotic process. I do not feel at all satisfied with the theories of treatment largely based upon these hypotheses, that are found in the works on medical practice, for the most part translated from foreign languages, which burden our shelves. I am sure they do not accord with the sound practical experience of American physicians, and do not meet the conditions of disease with which we are familiar. I am hopeful that ere long a truly national American system of medical thought, and teaching will be developed, which shall be animated by a more practical spirit, and shall embody the results of the broadest and most thorough clinical work.

ADDRESS OF DR. J. R. CHADWICK, Chairman of Section on *Obstetrics and Diseases of Women and Children.*—Instead of the custom of presenting in this address the advances that have been made in the department of Obstetrics and Gynæcology during the past year only, I propose to ask your attention to a statistical consideration of the whole volume of literature upon this branch of medicine during the past five years. I shall present a quantitative analysis of this literature with reference to nationalities, and shall finally sketch the rise and fall of the interest evinced in certain special topics, as shown by the number of separate publications and journal articles published in each successive year. These enumerations I am enabled to make by utilizing the annual "Indices of the Gynæcological and Obstetric Literature of all Countries," published under my supervision in the "Transactions of the American Gynæcological Society." The index for the year 1876 only covers the last six months of the year, and is therefore of but limited utility. The Index for the year 1879 is in print, but is not yet published; that for 1880, though, in form of copy, now in course of preparation for the printer, has nevertheless proved available for my purpose. The space of time covered by my review is unfortunately limited to five, or, more strictly speaking, to four and a half years, so that my sketches of the different topics can in no instance embrace more than a brief epoch in the life-history of any method of treatment, operation or theory. Such a numerical analysis of the current literature, if it could be made to cover a longer term of years, would, I am convinced, show some strange mutations in the popularity of certain topics, and would dampen the ardor of many authors who have sought to attain immortality by propounding new theories, devising new operations, and above all, by inventing new instru-

ments. Of course the number of articles published upon a given new topic is not, in every instance, an accurate test of its merit. Many new ideas are of such nature as to appeal to a limited audience. A new therapeutic remedy or a new operation, on the other hand, is pretty sure to meet a warm reception. Its life-history may then be outlined somewhat as follows: An article is written, recounting the success obtained by its author in the treatment of a certain condition by a new operative method. Immediately it is tried by many practitioners, who hasten to publish their results, particularly if favorable, when they may expect to derive renown or practice from being early identified with the innovation. Articles multiply rapidly, the operation has been forced upon the attention of the whole profession; soon its charm of novelty wears off, and the number of papers would rapidly diminish were it not that the negative or unfavorable results obtained begin to be published; the true merits of the operation are gradually reached and finally it is either adopted as part of the traditional story of operative procedures or is renounced and forgotten. A familiar recent instance of this course of events is observable with regard to incision of the cervix uteri for dysmenorrhœa advocated many years ago by Sir James Simpson. This operation at once appealed to the mechanical instincts of the profession, was taken up with avidity, was advocated in all the medical journals of the world, was variously modified by different operators, each of whom sought by numerous papers to have his special method adopted; opponents soon raised their voices; the operation was shown conclusively not to be followed by the promised relief in many cases, and moreover to be fraught with some danger. To-day this operation is rapidly passing into oblivion. It is still performed in cases of extreme stenosis, but is recognized as inadequate to afford relief in the vast majority of cases for which it was formerly recommended. My table shows a progressive decrease in the number of papers on this subject during the past five years. A similar fate may safely be predicted for several operations now held in high esteem such as the operations for lacerations of the cervix uteri, Freund's method for the complete extirpation of cancerous uterus, Pond's Cæsarean section followed by excision of the uterus, etc.

Obstetric and Gynæcological Periodicals.—This table shows that the total number of periodicals has increased in the five years from 13 to 22, nearly 60 per cent.; that the American have increased 100 per cent.; the French, 50 per cent.; the German, 30 per cent.; that Belgium, Italy and Denmark have entered the lists with one periodical each; and that England and Spain have remained unchanged. [This table is omitted.]

These special periodicals may be regarded as one gauge of the degree of interest taken in this branch of medicine in the different countries.

Certain characteristics distinguish the publications of the different countries. For instance, those of Germany contain more contributions to the science of medicine; whereas those of America contain more papers of a practical nature; those of France are more controversial, being more essentially the organs of separate cliques.

Another means of estimating the relative prominence of this branch of medicine in different countries is an enumeration of the special societies. [This list is omitted.]

We see here at a glance how greatly America predominates in this list, containing as many societies as exist in the rest of the world. Too great significance must not, however, be attached to this fact, for one cause of this development of societies is purely geographical. In England it is possible for those who are specially interested in gynæcology and obstetrics to attend the meetings of the Obstetrical Society at London, as actually happens, whereas in America the distances to be traversed are so great as to render this impossible. As a result of these two extremes, we find the English Society has 300–400 members, while the membership of the American societies ranges from 20 to 50. The lack of any special society in France is striking, and unaccountable when contrasted with the large number (6) of special journals issued in that country.

We now come to the consideration of the whole bulk of the special literature; it may best be appreciated by the aid of this table:

Last six months of—	Sep. Pub.		Articles.		Articles.		Total.
1876	91	=	1374	+	753	=	2127
1877	194	=	2388	+	1698	=	4086
1878	168	=	1320	+	2203	=	3523
1879	265	=	2194	+	2644	=	4838
1880	178	=	2166	+	2614	=	4729

In this table I have resolved the separate publications into their equivalents in journal articles reckoning an article at an assumed average length of ten pages, which is certainly above, rather than below, the average length of articles. The rate will, however, serve as a convenient basis for the reduction.

It will be noticed in the first place that the volume of this special literature is increasing at the rate of 25 per cent. a year. The figures for 1880 are undoubtedly too small, for the reasons that the titles are not all at hand at this date. I expect to add to these aggregates before this paper goes to press. The volume of literature thus shown to be devoted yearly to a single branch

of medicine is certainly appalling, and fully justifies the urgent need for specialization of practice already in process of evolution. Even admitting that 90 per cent. of these writings merely reiterate facts in medicine already familiar to gynæcologists, yet there still remains an immense amount of reading incumbent upon one who would keep abreast with the advances in this, to say nothing of the collateral branches of medicine.

A still further analysis of these figures for one year (1880) discloses some interesting facts with reference to nationalities.

In the first place, France has issued the greatest volume of literature, equivalent to 1,643 articles; America, 1,319; Germany, 669; Great Britain and Ireland, 488.

Dividing these into general subjects, we have:

France—Obstetrics, 941; Gynæcology, 702.

America—Obstetrics, 608; Gynæcology, 708.

Germany—Obstetrics, 350; Gynæcology, 669.

Great Britain and Ireland—Obstetrics, 231; Gynæcology, 257.

This predominant interest of France in obstetrics, may be shown to be restricted to a moderate number of writers, for in analyzing the French contributions closely, it appears that 51 separate publications (books, theses, etc.) were published during the year, which had been estimated as equivalent to 598 articles; deducting these from 941, we have remaining only 343 real germinal articles. In America only 8 books were issued, equivalent to 113 articles, leaving 485 articles. In Germany, a similar process reduced the articles to 159, in England to 158.

Under Gynæcology similar reductions change the relations as follows:

France, 293 articles.

America, 346 articles.

Germany, 201 articles.

Great Britain and Ireland, 162 articles.

The inferences from these figures may be summed up as follows: In America there is a much greater number of contributions in both general branches than in any other country.

In France the whole volume of obstetric literature, nevertheless, exceeds that of America by one-fifth, a curious discrepancy which may be attributed mainly to two factors: first, the publication of graduation theses; and second, the stimulus given to the professors to the writing of treatises from the rivalry engendered by the close propinquity of the fields of their labor; *i. e.*, by their being mostly inhabitants of Paris, and having charge of competing clinics. The cause of the small number of contributions from Germany is probably due to the fact that they emanate chiefly from university professors and instructors whose chief motive is

the desire for academic promotion, and whose writings are consequently, for the most part, records of extensive research or investigation; they are, hence, much longer on the average, and require a longer time for their preparation. I am at a loss to explain the lack of interest displayed in England by these figures.

Carrying my analysis one step farther I shall finally bid you scrutinize a table in which are given the number of articles upon certain definite topics in the successive years, and shall offer a few suggestions in explanation.

Under the general heading of ovariotomy we see a marked increase from year to year until a falling off is recorded for 1880. Under the sub-head of "ovariotomy" there is a steady increase, while in the past two years there has been a steady decrease in the number of "cases of ovariotomy;" the change must be apparent to all.

"Normal ovariotomy," which was devised and first carried out by the genius and pluck of our countryman, Dr. Battey, has deservedly claimed more attention during the past three years than any other new operation; but during 1880 its volume of literature has been on the wane, its true value and limits of usefulness having been nearly defined.

Porro's Cæsarean section with extirpation of the uterus appeared as a new operation in 1879, and has since been vigorously advocated and discussed.

The central and systemic effects of renal disease recorded under several headings in the table [omitted] show in the aggregate a marked increase in prominence quite commensurate with their importance.

The "forceps" were brought forward as a special topic in 1878 by the invention of new form by Tarnier, and in 1879 by the formal discussion of the extent of their utility at the Obstetrical Society of London; hence the greater figures under these two years.

"Tumors of the uterus" continue to attract an interest proportionate to the extension of abdominal surgery.

"Extra-uterine pregnancy" has been brought to the front during the past five years mainly through the labors of Parry and Thomas, both Americans.

"Puerperal septicæmia" evinces a small but increasing popularity commensurate with interest now taken in all diseases attributable to putrefactive changes or the development of germs.

"Cancer of the uterus" received an impulse in 1879, which is more than sustained in 1880 by the publication of the alleged curative effect of Chian turpentine in the hands of Dr. John

Clay of England; a claim which has not been corroborated by the experience of other observers. This subject will doubtless sink to its normal level in the present year.

"Incision of the cervix uteri" had its day before the years covered by my tables, and is fast sinking into oblivion.

Laceration of the cervix uteri and its end, by the simple and admirable operations of Dr. Emmet, is the topic of the day, in this country at any rate, but can scarcely be said to have passed from the state of novelty to that of criticism. It is destined to be a fertile topic for some years to come, when it, too, will be assigned its proper sphere—a very restricted one as I believe—and cease to excite discussion.

The treatment of the "Vomiting in Pregnancy," by dilatation of the cervix uteri, devised by Dr. Copeman, of England, brought this topic forward in 1878 and 1879, as seen by the figures. Its decadence in 1880 is manifest.

The subject of "Lying-in Hospitals" was prolific of discussion in 1878, especially in 1879, but is now on the wane.

General Conclusions.—The above quantitive analysis of obstetric and gynæcological literature with regard to nationalities, manifests the prominence of America in this branch of medicine. America contributes more journal articles than any other nation, supports by contributions, both literary and pecuniary, as many special periodicals as France, and twice as many as either England or Germany, and carries on as many special societies as all the other countries of the world together.

England, despite the labors of Wells, Keith, Thornton, Barnes, Duncan, Tait, Leishman and Playfair, is fast losing its pre-eminence in this branch of medicine, and has recently demonstrated its inability to support even one special journal, by the discontinuance of the *Obstetric Journal of Great Britain and Ireland*, on January 1 of the present year.

France is exhibiting an unnatural activity, under special influences already adduced.

Germany holds on the even tenor of its way, while Belgium, Italy, Spain, Denmark, and Russia are awakening to a more active participation in the advance and dissemination of obstetric and gynæcological lore.

I have throughout these pages restricted myself to a quantitative study of the literature. I cannot close without giving in a few words an estimate of the quality of each nation's contributions to the science and practice of gynæcology and obstetrics.

Germany unquestionably advances pure science more than any other nation; the papers in its three journals are the most profound and the most critical.

France manifests a great dearth of original ideas and a most discursive style of discussion, but considerable painstaking historical research. Its journals are prolix and, for the most part, profitless reading, and exceed in number the legitimate demand.

England exhibits a waning interest in this branch of medicine, little originality, but a notable discrimination in adopting new theories and applying them to practice. Its only special journal died at the close of the last year.

To America I have no hesitation in according pre-eminence in this special field. Our countrymen meet the emergencies incident to child-bearing with a quickness of perception and readiness of action rarely seen in other countries. Their ingenuity has led them to devise new operations in gynæcology and to carry their art with brilliant results, so that to-day the practice of that branch has reached a stage here far in advance of other nations. Of course our natural aptitudes lead many of us to overestimate the beneficial results of surgery, but, taken all in all, close observation and study in most of the countries of Europe has confirmed me in the opinion that in obstetrics and gynæcology America leads the world.

THIRD DAY—THURSDAY, MAY 5, 1881.

The Association was called to order at 10 o'clock by the President, Dr. John T. Hodgen.

Prayer by Rev. Dr. Wm. E. Hatcher, of the Grace street Baptist Church.

The report of the Committee of Arrangements for the day's proceedings was read by Dr. Frank D. Cunningham, and adopted.

On motion of Dr. Gross, the rules were suspended. He then offered a resolution to so amend the By-Laws as to establish an additional Section, to be known as the Section of Dentistry, which was adopted.

ADDRESS OF DR. HUNTER MCGUIRE, Chairman of Section on Surgery, etc., on *Operative Interference in Gunshot Wounds of Peritoneum*.—Few surgeons have had greater experience in treating gunshot wounds occurring both in military and civil life, and few have appreciated more fully how unsatisfactory are the results obtained from the expectant or do-nothing plan so much in vogue. The title of the paper indicates the grounds taken by the writer in favor of operative interference, and the views embodied in the paper tend to prove the position advanced by the

writer, that the patient will exchange an almost certain prospect of death for at least a good chance of recovery, and should, we think, embolden surgeons to think less of expectant treatment and more of operative interference. Statistics from the Crimean, the French and the late American civil war, show that more than nine out of every ten patients with wounds of the belly, opening into the cavity of the peritoneum, perish—no other gunshot wounds being so deadly, not even penetrating and perforating wounds of the skull. In incised, punctured and gunshot wounds of the peritoneum, the general plan of treatment has been to enjoin absolute rest, give opium to prevent peristaltic action, and encourage the formation of adhesions, in the idle hope of preventing extravasation into the peritoneal cavity. It is claimed that the wound may paralyze the muscular coat of the bowel; or in small wounds the mucous coat is everted and closes the aperture, or the part injured may not be covered with peritoneum and no extravasation take place within the peritoneal cavity, or that the serous membrane covering the intestine near the point wounded may become adherent to the omentum, to the bowel or to the abdominal wall, and the orifice in the bowel become permanently closed; and last, but very rarely, the extravasated mass may become encysted, end in abscess, and discharge itself through the neighboring skin or mucous surface. In the opinion of the writer, when we remember that the alimentary canal is never completely empty, common sense teaches us, when an opening is made in any portion of the peritoneal cavity that its contents will escape; that there will probably be less resistance to the passage of fæcal matter through the unnatural aperture than along the sides of the canal itself. Gas may first be expelled, separating peritoneal surfaces, and then the fluid or solid contents of the bowel follow. Only one or two exceptions to this rule are reported in the history of the late war between the North and South. But, besides alimentary effusion, blood, air, bile and urine may also be extravasated into the peritoneal cavity. Penetrating wounds of the belly, with fæcal effusion, are rapidly followed by general acute peritonitis; ninety per cent. die within forty-eight hours. Does peritonitis from any other cause, as a rule, kill as quickly? In spite of the assertion of Malgaigne and others, that the organs contained in the belly fill the cavity to such repletion that shot wounds of that space without visceral injury are impossible, *post-mortem* examinations and experiments upon dead bodies show that wounds of the peritoneum can be made without injury to the contained viscera. It has fallen to the lot of the writer to witness four such cases. Two occurring in civil life, and being the subjects of legal investigation, careful

autopsies were made. Two were soldiers dying from peritonitis, and the autopsies showed no visceral lesion. These four cases, coming under the observation of one individual, and having their exact character shown by *post-mortem* examinations, prove that such results are not impossible, and probably not as rare as we have been led to suppose. Those rare cases of recovery from penetrating wounds of the abdomen have induced surgeons to continue the expectant plan of treatment in place of what appears, at first sight, to be a desperate surgical interference. Some of the alleged recoveries may have been wounds of a portion of the large intestine not covered by peritoneum. Recovery, with fæcal fistulæ, is not uncommon in this case; others may have been penetrating wounds without visceral injury; others again may have been parietal wounds without peritoneal penetration. In connection with the four cases of gunshot wound of the peritoneum alluded to by the writer, and in which there was no visceral injury, the total absence of shock was remarkable, and no diminution of temperature. One of them (a soldier) assured the writer that he did not know that he had been wounded until some time after he had been shot. Another (wounded in a duel) insisted that he was able to stand up and give his antagonist another fire. On the other hand, in all cases with visceral lesions the shock of injury is a prominent symptom. The presence or absence of shock seems to be a diagnostic point of no little value. If to this be added sudden meteorism, the character, extent and direction of the wound, bloody discharges from the bowels or stomach, an almost certain diagnosis by rational symptoms will be reached. In reply to the question, Why are these injuries so fatal? why, after escaping death from peritonitis, shock and hæmorrhage, peritonitis is fatal in forty-eight hours? the writer attributes death to some kind of blood poisoning connected with peritonitis, just as we often see septicæmia associated with peritonitis under other circumstances, notably after parturition and ovariotomy. He believes that the blood poisoning after gunshot wounds of the peritoneum is consequent upon the pent-up, red, sero-fibrinous exudation which traumatic peritonitis invariably produces in abundance, and that if this effusion could be drained off as soon as it is formed, septicæmia might be prevented. In lacerated wounds of the abdominal walls, with exposure of the cavity, protrusion of the contents and the introduction of foreign matter into the cavity are nothing like so mortal.

In all of these cases the nature of the wound prevents union by the first intention, and drainage of abdominal effusions is effected. In the fifty-nine cases of recovery after penetrating wounds of the large intestine, fifty-five were perforating wounds,

the large aperture of exit being usually on the posterior surface of the body, dependent and facilitating drainage. In one of the four instances of recovery in simple penetrating shot wound of the large bowel, the edges of the opening in the bowel were fastened to the wound in the abdominal wall, and in this, as well as in the other three cases, fæcal fistulæ were formed. Shot wounds of the pelvis are nothing like so fatal as wounds of the peritoneum higher up. Unless accompanied by grave visceral lesion, three cases out of four of penetrating or perforating wounds of the pelvis recover. Can this fact be satisfactorily explained upon any other theory than that drainage in these wounds is almost unavoidable? Indeed, in these cases we are taught to explore the wounds with the finger, remove loose pieces of bone and foreign bodies, and keep the aperture of entrance and exit open, that free vent may be given to all inflammatory products; and if the size and position of the wound do not facilitate this, we make the opening bigger and insert a drainage tube. Spencer Wells attributes the fatality after ovariotomy to some form of pyæmic fever or some form of blood poisoning so often associated with peritonitis, and thinks the lesson taught by many successful ovariotomists of providing for the escape of inflammatory matter, of great value, and one which should be profited by, by the surgeon who treats the gunshot wounds of the peritoneum. Ovariotomists even go so far as to wash out the cavity when peritonitis exists and death from septicæmia is imminent. In many of the cases of penetrating wounds of the peritoneum, the ball passes obliquely through the abdominal wall and the aperture shuts up like a valve, or if passing directly through the parieties, the aperture of entrance contracts at once and closes. To all intents and purposes the cavity is hermetically sealed, and the missile, pieces of clothing, blood from wounded vessels, fæcal effusion, if the intestine is wounded, and inflammatory products are all hopelessly imprisoned there. Can it be wondered that such wounds are fatal? In no other gunshot wounds of cavities do we allow the wound of entrance and exit to be closed. Who would think of shutting up the opening in gunshot wound of the knee-joint? During the late war, the plan of hermetically sealing up wounds of the pleura, a structure analogous to the peritoneum, proved most disastrous. In gunshot wounds of the chest involving the serous membrane, we keep the wound patent, and if not dependent, we do not hesitate, when effusion takes place, to make a counter-opening with a knife or trocar, and sometimes to flush the cavity with detergent and antiseptic lotions. In view of these facts, the writer ventures to ad-

vocate operative interference in gun-shot penetrating wounds of the peritoneum with intestinal injury, in penetrating wounds of the peritoneum with any visceral lesion, and similar cases without visceral injury. The wounds in the abdominal walls should be enlarged, or the linea alba opened freely enough to allow a thorough inspection of the injured parts. Hæmorrhage should be arrested. If intestinal wounds exist, they should be closed with animal ligatures, trimming their edges first if they are lacerated and ragged. Blood and all other extraneous matters should be carefully removed, and then provision made for drainage. If the wound of entrance is dependent, drainage may be secured by keeping this open. If the wound is a perforating one, and the aperture of exit dependent, the patency of this should be maintained, and, if necessary, a drainage tube of glass or other material introduced. If there is no wound of exit, and the wound of entrance is not dependent, then a dependent counter-opening should be made and kept open with a drainage tube. If it is urged that the means suggested are desperate, it can be said in reply that the evil is desperate enough to justify the means.

At the close of the reading, Dr. McGuire was loudly applauded, and his paper appropriately referred.

The next business in order was the Report of the Committee on Clinical Observation and Records.

Dr. J. T. Reeve, of Wisconsin, Chairman of the Section on State Medicine, who was to have read a paper, being absent, his time was occupied by Dr. J. S. Billings, U. S. A., who read a paper on Some of the Results of the Tenth Census, as Regards Mortality Statistics.

This paper was prepared to be read before the Section on State Medicine, but was of such great interest that Dr. Billings was requested to read it at the general session.

At the meeting of the American Medical Association in Atlanta, in 1879, the Chairman of the Section on Hygiene, in his address, called attention to the opportunity presented by the coming census for obtaining more satisfactory mortality statistics for the whole country than have heretofore been collected.

A letter from the Superintendent of the Census was read, in which he requested the coöperation of the medical profession of the country, both as to general influence and technical assistance, in obtaining the records desired.

Early in the census year, forms were prepared for a small register of deaths to be kept by physicians.

Each register contained twenty-four such slips, and a copy of the register, with a stamped envelope for its return at the end of the census year, was sent to every one in the United States who was reported, by his or her postmaster, to be a physician or to be addressed as such.

The registers having been received were examined by a skilled physician, who indicated on each slip the name of the cause of death to be used in tabulation. Very few of the registers were in such a condition that they could not be used for statistical purposes, although, as a matter of course, some of the causes of death reported could only be classified as unknown. This had been foreseen, and in the address above referred to it was expressly provided that the physician should use such terms as "paralysis of heart," "apnœa," etc., as equivalent to "unknown."

This point was not, however, made quite so clear as it should have been in the registers, as will be seen by examining the foot-note of instructions, although the intent was probably understood by the great majority of physicians. The number classified as "unknown" was 4,162, out of a total of 166,896, being about 25 per 1,000.

The number of *post-mortems* made in this number of deaths was 3,755, or 20.7 per 1,000.

When the examination and checking of these registers were completed, they were taken apart, and, as each leaf furnished the record of a single case, they could then be used as cards, and readily assorted and classified in various ways. The first classification was into groups by counties. Those coming from the large cities were then set aside, and the remainder, representing the character of the fatal diseases in rural districts and small towns, were so compiled as to show, by age, sex, and color, the number of deaths from each cause.

The units of area or locality used in this compilation were neither the State nor the county, but groups of counties in each State, selected according to altitude and topographical characteristics by the geographer of the census. Each State contained from two to six such groups, and thus we can group the prevailing causes of death on the sea coast on the table lands, among the hills, etc.

As the number of deaths returned by physicians upon these registers has no definite relation to the actual number of deaths which occurred in any given locality, and still less to the actual population of that locality, these registers can only be used in

this connection to show the proportional frequency of certain causes or groups of causes of death to the whole number of deaths reported in them, or to each other. They have other and important uses, as I will explain presently.

The nomenclature and nosological classification adopted are essentially those used in the last census, being that prepared by the Royal College of Physicians.

The most important differences in it from the old nomenclature of the college are the abolition of the division of general diseases into two groups—A and B—and the placing in the general diseases of the various forms of diarrhœal diseases, which before were placed under diseases of the digestive organs. These modifications have been approved by the National Board of Health, and are now under consideration by the Committee of the College, which is engaged in the revision of the nomenclature.

After the compilation above referred to had been completed, the slips were used to correct and complete the lists of deaths, prepared by the enumerators. The blanks for these lists, which are known as the mortality schedules, differ from those used in previous censuses by having columns for the nativity of the father and mother of the decedent, the length of his residence in the county, the place where the disease was contracted, if not in the county, and the name of the attending physician. They also contain two supplementary schedules—one giving the names of those dying in the place, but belonging to families living in another county or State; the second, giving names of persons belonging to families residing in the place, but who have died away from home in another county or State.

The first rough count shows that about 620,000 deaths have been returned upon these schedules. To these there will be added, from the register slips above described, about 50,000 deaths, and the records of the cities from which no enumerator's schedules are received will add about 80,000 more, making a total of about 50,000 deaths returned for the year, which, for a population of 50,000,000, give a death rate of fifteen per thousand. While it is certain that this does not include all the deaths, it is evident that it is much more complete than previous censuses—the total number of deaths for that of 1850 having been 323,098, being a mortality rate of 13 9-10 per thousand. In 1860, there were returned 394,153 deaths, being a mortality rate of 12 5-10 per thousand. Upon this last, Professor Elliott constructed life tables, assuming a deficiency in returns of deaths of 41 per cent., or, in other words, that the true death rate was a little over 18 per thousand. If this were assumed as the true death rate for

the last census year, the deficiency in returns would be less than 10 per cent.

From this brief statement it will be seen that General Walker is to be congratulated upon the improvement which has been effected in the Tenth Census in regard to the completeness of the mortality statistics, and also that the medical profession of the country has contributed largely to the securing of this relative completeness.

In order to obtain as much information as possible with regard to the amount and distribution of the actual deficiencies in the mortality lists, the entire registers of deaths of two States and several large cities for the census year have been copied, and will be compared with the mortality schedules furnished by the Census Enumerators from the same localities. The results of this comparison will probably be interesting and valuable.

An attempt has been made in the Tenth Census to obtain the number of the population on the 1st of June who are so sick or disabled as to be unable to pursue their ordinary avocations, and also to give the causes of such sickness or disability. This attempt has never been made before in this country, and in other countries has only been systematically made, as far as I am aware, in the three Censuses of Ireland for 1851, 1861, and 1871. It is too soon yet to speak of the results of this attempt, as the computations have not been made, but it is evident that either the returns will prove to be too imperfect to be of much, if any, statistical value, or the amount of sickness is much smaller than has been usually supposed. Taking the State of Rhode Island, where the Census was taken under the direction of a skilled superintendent, Dr. Snow—who had so small a territory to deal with that he could make sure of the knowledge and training of almost all his enumerators, and where it is to be presumed the population schedules have been filled out with the greatest accuracy and completeness—it is found by a count that the number reported sick and disabled, aside from those reported as blind, deaf and dumb, insane, crippled, etc., was a total of 3,276 out of a population of 276,528, being in the ratio of 11.8 per thousand. Comparing this with the results of the Irish Census of 1861, I find that the proportion of sick at their own homes reported in Ireland varied from 1 in 142 to 1 in 942 in the different localities specified, which is in the ratio of 7.04 and 1.06 per thousand respectively. It is usual to compute that for every case of death in a community there are two cases constantly sick.

It will be seen, if the estimate is correct, the Rhode Island Census comes much more near completeness than that of Ire-

land. The only other source of comparison which I have thus far found available is that of the health of the army, in which I find that among the white troops, for the year 1877, the average number constantly on the sick roll was 44 per thousand of mean strength.

Upon the whole, it seems probable that the results from the Rhode Island count are nearer the truth than any other data which we possess.

In conclusion, I think the Association will be glad to know that the work of tabulating these returns of deaths is going on rapidly, and that the results will be published in a form which will be found more satisfactory than the forms heretofore used, because it will present the comparison of mortality rates of counties and groups of counties, as well as of entire States. The importance of these mortality records is very great, in fact, because for very large portions of this country they give almost the only positive data we can get for comparison of the truthfulness of different localities; in fact, because they will serve both as a pattern and an incentive for scientific work in this direction on the part of municipalities and states.

REPORT ON CLINICAL AND METEOROLOGICAL RECORDS, BY DR. N. S. DAVIS.—This report, which was an able and exhaustive one, closed with the following recommendations:

1. That a committee of five be appointed by the President of this Association, to be called the "Standing Committee on Atmospheric Conditions, and their Relations to the Prevalence of Disease."

2. That said committee be authorized to select such representative places as will best indicate the atmospheric conditions in the more important climatic sanitary districts of the United States (to be not less than six nor more than twelve in number), and establish therein means for continuous observation and record of appreciable conditions of the atmosphere, according to the most approved methods, and of the origin and prevalence of all acute diseases.

The third resolution recommends, in determining the organic and other oxiding elements of the atmosphere, the use of the thallium paper, as prepared by Schone; and for determining the presence and relative quantity of ammonia and other organic products, the use of the pumice-stone method recommended by Professor Remsen, in his recent report to the National Board of Health.

4. The committee require a full statement of the results of

the work done at each station, on the 1st of January and July of each year.

5. Appropriate $500 to carry out the purposes of these recommendations; a full statement of the amount received and expended to be reported at the next annual meeting.

The report concludes as follows:

In submitting the foregoing report, your committee are not unmindful of the magnitude of the work proposed, and of the difficulties that will be encountered in its prosecution. But if it is undertaken and prosecuted with persevering industry, much aid may be obtained from the co-operation of local medical societies and boards of health, and results of great value will be obtained, which, from the nature of the problems involved, cannot be obtained without such combined action of many working on parallel lines, under a uniform supervision. And should the foregoing recommendations meet your approval, it will inaugurate a change in medical society work by substituting, in part, at least, carefully devised plans for continuous investigation for adding to the stock of medical knowledge and establishing more complete methods, instead of depending wholly on individual and fragmentary contributions, and will thereby greatly enhance the value of social organizations in the profession.

The report is signed by Doctors N. S. Davis, J. M. Toner, and Henry O. Marcy. Doctors S. M. Bemis and W. H. Geddings, the other members of the committee, were absent, and did not sign the report.

The report was adopted and referred to the Committee on Publications.

The recommendations of the Committee were adopted.

FOURTH DAY—FRIDAY, MAY 6, 1881.

The Association was called to order by the President.

Prayer by Rev. C. H. Read, of the Grace Street Presbyterian Church.

The following committee was announced on Clinical Observations and Records: Dr. N. S. Davis, Chicago; Dr. J. M. Toner, Washington, D. C.; Dr. H. O. Marcy, Boston, Mass.; Dr. W. H. Geddings, Aiken, S. C.; Dr. S. M. Bemis, New Orleans.

The Association then resumed the consideration of the amendment of the Code of Ethics.

Dr. Billings then offered the following substitute for the original:

"It is not in accord with the interest of the public or the honor of the profession that any physician or medical teacher should examine or sign diplomas or certificates of proficiency for, or otherwise be specially concerned with, the graduation of persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine."

The substitute was adopted.

The Committee on Nominations reported the following additional officers, who were elected:

Section on Practice of Medicine.—Chairman, Dr. J. A. Octerlony, Kentucky; Secretary, Dr. Deering J. Roberts, Tenn.

Section on Surgery and Anatomy.—Chairman, Dr. J. C. Hughes, Iowa; Secretary, Dr. William A. Byrd, Illinois.

Section on Obstetrics.—Chairman, Dr. H. O. Marcy, Massachusetts; Secretary, Dr. C. V. Mottram, Kansas.

Section on Medical Jurisprudence and State Medicine.—Chairman, Dr. A. L. Gihon, Washington, D. C.; Secretary, Dr. J. H. Sears, Texas.

Ophthalmology, Otology and Laryngology.—Chairman, Dr. D. B. St. John Roosa, New York; Secretary, Dr. J. Solis Cohen, Philadelphia, Pa.

Diseases of Children.—Chairman, Dr. S. C. Busey, Washington, D. C.; Secretary, Dr. William Lee, Baltimore, Md.

Dentistry.—Chairman, Dr. D. H. Goodwillie, New York; Secretary, Dr. P. B. Brophy, Illinois.

Judicial Council.—Dr. S. N. Benham, Pennsylvania; J. M. Toner, Washington, D. C.; D. A. Linthicum, Arkansas; William Brodie, Michigan; H. D. Holton, Vermont; A. B. Sloan, Missouri; R. Beverly Cole, California.

Dr. D. S. Reynolds, of Kentucky, delivered the address of the chairman of the Section on Ophthalmology, etc., which was appropriately referred. The reports of the Committees on Necrology and Secretaries of Sections were now submitted.

Dr. William M. Beech, of Ohio, chairman, submitted the report of the committee appointed on official position of members

of the medical staff of the army and navy, in which he asked that the committee be continued. In doing so, he argued that the principle of promotion which prevails among army officers should prevail the same as it does in the other departments of the Government.

He spoke earnestly upon the subject, and was frequently applauded. He complained that while officers of the army and navy were retired on half pay, surgeons in the army and navy, who had been in the service for years, did not have the same recognition from the Government. He showed that this princi ple extended to the judiciary as well.

Dr. Brown, United States Navy, suggested that the report was wrong in its title, complaining of the lack of official recognition of medical officers of the army and navy. He thought the matter of official recognition would right itself.

Dr. Billings, United States Army, concurred in what Dr. Brown said, and thought the subject had better drop.

Dr. Beech was willing to strike out the language relating to official recognition, but he thought some legislation should be enacted by Congress to secure equal preferment with other officers of the army and navy.

On motion of Dr. Davis the matter was laid on the table.

The Convention adopted the following:

Resolved, That the thanks of this Association are hereby tendered to the Committee of Arrangements of this Association for the faithful attention they have given to their duties and requirements; to the medical profession and citizens of Richmond for their hospitality and endeavors to make the time spent by us while here pleasant and agreeable; to Drs. McCaw and McGuire for the elegant special entertainment given by them at the Westmoreland Club; to Mr. McClure, Superintendent of the Telephone Company, for special facilities given the Committee of Arrangements and the Association; to Vice-President Parsons, of the Richmond and Alleghany Railroad, for his kind invitation for a ride on his road, in order to show us the interior of the State of Virginia; to Mr. Powell, manager of the Richmond Theater; to the managers of the Mozart Association, and all others who have contributed to our pleasure and comfort; to the press, and espe-

cially their reporters, in giving such a full *résumé* of the proceedings in the daily papers; to the railroad companies generally who have so liberally reduced the rates of transportation for our benefit and any other modes of conveyance that have so contributed; to Mr. Valentine for his kind invitation to his studio.

Be it especially resolved, That our thanks are particularly due to the ladies of Richmond, for their attention and kind interest in making our sojourn so very pleasant and agreeable.

The hour having arrived for adjournment, Dr. N. S. Davis, of Chicago, alluded to the very harmonious session which had been held, and complimented the retiring President for his efficiency in the discharge of his duties.

The retiring President (Dr. Hodgen) returned his thanks to his friends in Richmond who had so kindly entertained the members of the Association. He was reminded that his ancestry first breathed the air of heaven in this delightful country, and as he remembered the bright smile of his now dear, dear mother, he would in future remember the impression that had been made upon him by the people of Richmond, Va. [Applause.]

The Association was then declared adjourned *sine die*.

PROCEEDINGS OF SECTIONS.

FIRST DAY.

SECTION ON PRACTICE OF MEDICINE, MATERIA MEDICA AND PHYSIOLOGY.—Dr. Pepper being absent, Dr. J. A. Octerlony, of Louisville, was called to the chair, Dr. T. A. Ashby, of Baltimore, Secretary, being in place.

Dr. W. C. Wile, Sandy Hook, Connecticut, read a paper upon "Blood-letting as a Therapeutic Measure in Pneumonia." He said that it was with great hesitation that he approached such a subject, but, that in the light of his past experience, he felt it to be his duty to do so. He could not, in the limited time at his disposal, say anything in regard to the etiology or diagnosis of pneumonia, but should confine his remarks to the consideration of a therapeutic measure. He then proceeded to say that, while

he knew he was treading upon almost forbidden ground, and that he would meet with great opposition from the profession at large, he felt compelled to urge the importance of the *free use of the lancet* in pneumonia. He cited a typical case of what he called "Acute Catarrhal Pneumonia," in which he had recommended the abstraction of blood in the first stage, but in which, owing to the opposition of the family, he had been unable to carry out the practice he recommended until the disease had advanced to the second stage, but even then with the most marked and immediate favorable results. He entered very fully into the details of this case, as it was one of a class which had proved peculiarly fatal in Connecticut, under any treatment he had adopted; and reported a series of twelve other similar consecutive cases, with like favorable results.

Dr. Pepper, having arrived and assumed the chair, at the conclusion of the reading of Dr. Wile's paper, suggested that the discussion be postponed until two other papers upon this subject, which had been promised, should have been read. Dr. Pepper then called upon Dr. Gross to open the discussion.

Dr. Gross said he should prefer to hear from some other gentleman first, and reserved his remarks for the present.

Dr. John J. Lynch, of Baltimore, remarked that he thought, from Dr. Wile's description of his cases, that he had made a mistake in diagnosis, as they were evidently "*croupous*," and not "*catarrhal*" pneumonia. The Doctor was also probably mistaken in attributing the rapid recovery of his cases to the bleeding, because croupous pneumonia most frequently ends in from two to eight days by sudden crisis, and Dr. W.'s cases would probably have recovered just as soon without the bleeding. Dr. L. admitted that for rapidly extending collateral hyperæmia in pneumonia bleeding might be necessary, and was most efficient, but this was from the merely mechanical effect of the remedy, and in no sense curative. The disease would run its course afterwards in spite of the bleeding.

He hoped he would never see the day when the profession returned to the sanguinary method of treating pneumonia, less than half a century ago, when the average mortality was more than twenty-five per cent., while by the modern, purely rational

method, it was, in uncomplicated cases, not more than four or five per cent.

Dr. Whittaker, of Cincinnati, said that he thought too earnest protest could not be made against this revival of venesection at this late period in the history of science. Pneumonia is now known to be a general disease with a local expression in the lungs, just as typhoid fever is a general disease with a local expression in the intestines. There could be no justification of venesection in pneumonia, except upon the theory of a local inflammation. That pneumonia is, however, not a simple local inflammation is proven by the fact that it differs in its thermal and special relations from local inflammations, like bronchitis, and that the local and general symptoms do not correspond in severity. The local signs may be slight and the constitutional severe, and *vice versa*, just as in typhoid fever or any of the exanthemata. Pneumonia prevails at all times and places, and occurs at all ages of life like the various infectious diseases, and modern pathology has put pneumonia in the category of the acute infections. It would be impossible therefore to do anything but harm by the letting of blood at any stage of the disease. How could the letting of blood clear up a consolidated lung by pounds of blood coagulated in its interior? The essayist has, evidently, mistaken the crisis for a cure. The crisis in pneumonia may occur at any time between the fifth and eighth days, and often as early as the third, and neither blood-letting nor any other treatment could possibly cut it short. As for *veratrum viride*, that dangerous cardiac sedative, to which the speaker had alluded, it could do nothing but harm. What advantage is there in checking the force and frequency of the heart, when this increase in force and frequency is only compensatory, and is to be favored rather than checked. Pneumonia is due to a poison entering the blood and affecting the whole body, and no amount of blood-letting could let it out, any more than we can drain out the impurities of a stream with a bucket. Our illustrious professor of surgery—may the luster of his name never grow less—may succeed by the force of his genius in restoring venesection, the lost art as he calls it, to a place in the domain of surgery, but in internal medicine it is hopelessly and irretrievably lost.

Dr. N. S. Davis, of Chicago, said that he had practiced medicine for nearly half a century, and that for fifteen years he had practiced venesection after the regular sanguinary method, and that he must say that he had found the best results from blood-letting in pneumonia, when discriminately employed.

Dr. Octerlony, of Louisville, Ky., said that he did not wish to discuss the general subject of pneumonia, but to offer some remarks in analysis and friendly criticism of Dr. Wile's paper. In the first place, he did not deny that cases are occasionally met with in which blood-letting is indicated and will prove beneficial in relieving venous congestion, but he did not think Dr. Wile's cases sufficiently numerous to establish a law, nor were they reported with sufficient care to make them available.

The first case, which the Doctor designated as *catarrhal pneumonia*, was evidently *croupous* pneumonia. Of the other cases he gave no account of the physical signs, and so had left the Society in doubt as to the diagnosis.

The first stage of the disease was the period during which Dr. Wile would have us bleed, because this was the stage of engorgement; but he (Dr. O.) claimed that even at this period exudation had already occurred, as shown by the physical signs, dullness, absence of vesicular murmur, and the presence of fine crepitant *râles*. Bleeding will not return this exudation to the vessels; this can only be accomplished by a vital process. The mortality in Dr. W.'s cases was 1 in 13—far greater than that resulting from the plan of *promoting the natural progress of the disease and supporting the strength of the patient.* The duration of his cases was not less, but greater, than our knowledge of the natural history of the disease shows to be the rule.

In conclusion, he must insist that the writer had not proved his proposition—viz., that pneumonia is a very fatal disease, nor that the mortality or duration of the disease have been diminished by venesection. On the contrary, it seems to be a well established fact that pneumonia is a self-limited disease. The blood-letting plan of treatment used to give a mortality of 1 in 5. The purely expectant plan, 1 in 13. The plans he had here recommended gave, in Bennett's hands, a mortality of 1 in 36.

Dr. J. H. Claiborne, of Virginia, said that he did not think we

could fail to go astray if we followed the teaching of the gentlemen who always recommended bleeding, nor could we fail to go astray if we believe those who tell us never to bleed. The middle course was safest, and we should be guided more by experience than by theory. There was no one method of treatment applicable to all varieties of pneumonia.

Dr. Post, of New York, said that in his opinion no dependence could be placed in statistics, as they were drawn from a class of patients found in hospitals, who had been badly clothed and badly housed and fed all their lives, and such statistics were not reliable guides. We must be guided solely by experience. He could not sympathize with the gentleman who expressed the opinion that the lancet could no longer be used in medicine, for he believed that, when properly and discriminately used, recovery was more rapid after bleeding.

Dr. Coleman, of Vermont, said that theoretically he believed in the lancet in a certain class of cases, but that in practice he did not meet with that class of cases where the blood was being forced into the lungs so rapidly as to produce strangulation, as he was not called in time to see them in that condition.

Dr. Quimby, of Jersey City, said that in all acute inflammatory cases where he used stimulants he lost his patients. Under a modified treatment he had lost not a patient. All cases where he had used the lancet he had treated so on first or second day. He thought we did not often see these typical cases in the very first stages. We can't treat patients as if they were machines. He advocated the free use of the lancet, when properly and timely used.

Dr. Whitney, of New York, said that when he first commenced practice he had felt it to be his duty to bleed all cases of pneumonia. Since then he had, to a great extent, abandoned the use of the lancet; but he thought the mortality had never been so great before as since the abandonment of venesection. He thought we did not bleed half enough.

Dr. Ballou, of Rhode Island, had never used the lancet—that he regretted it—but had often failed to bleed, and regretted it very much.

Dr. North, of Iowa, always carried a lancet; he had never lost a case of pneumonia, and had never yet bled one.

Dr. Jackson, of Virginia, thought it objectionable to speak of blood-letting as a treatment of pneumonia—we ought to speak of it as an adjuvant or auxiliary. It was wrong to let it go abroad among the younger men that we had either advised against or for blood-letting.

Dr. S. D. Gross belonged, he said, to the younger members of the profession. He had listened with deep interest to the remarks made here. Pneumonia was an inflammatory affection, and the lancet, in such affections, was applicable in young, robust, and healthy subjects. Bleeding was not applicable in *all* stages of pneumonia, but only in the commencement, when the disease was in its infancy—not later. We employed bleeding simply as an adjuvant, and under such circumstances we employ it wisely. If, however, we wait until consolidation has taken place, bleeding does harm, no matter what be the form of pneumonia, whether croupous or catarrhal. If bleeding was performed in time, and on proper subjects, it was the great remedy in this disease.

Dr. Lyster, of Michigan, did not think the practice of venesection so good as the theory. We did not bleed in cerebro-spinal meningitis, because we knew we should lose our patients; but we used the supporting treatment. He asked what was the difference between the two inflammatory conditions? He was surprised at so much advocacy of the lancet in pneumonia, and would like to see it dispensed with.

Dr. Martin, of Massachusetts, trusted that it might go out to the world that the American Medical Association sanctions the *occasional* use of the lancet, at least.

Dr. Wile, of Connecticut, in closing the discussion, expressed his gratitude for the courteous manner in which his paper had been discussed, and he accepted from the gentlemen their diagnosis of his cases. He felt delighted to learn that pneumonia was such a pleasant disease to treat as those gentlemen who proscribed the lancet seemed to think it. The cases he had reported were of the class, and the only class, he had met with in Connecticut. He did not wish to be understood as saying that the lancet

was the only mode of treating pneumonia, but that it was the only way of treating those cases of pneumonia with which he had come into contact in Connecticut.

On motion of Dr. Gross, adjourned.

SECOND DAY.

SECTION ON PRACTICE OF MEDICINE, MATERIA MEDICA AND PHYSIOLOGY.—Met at Mozart Hall at 3 P. M. Dr. Pepper being absent, Dr. J. A. Octerlony, of Louisville, was called to the chair; Dr. T. A. Ashby, of Baltimore, Secretary, being in place.

Dr. Prentiss, of New York, being absent, at the request of the chairman, Dr. King, of Washington, read Dr. Prentiss' paper, entitled "Is Croupous Pneumonia a Zymotic Disease?" The paper was one of some length, and maintained that croupous pneumonia was a constitutional disease; that the lung affection was purely a local manifestation, and that, therefore, pneumonia must be classed among the zymotic and preventable diseases. The differential diagnosis between croupous and catarrhal pneumonia was dwelt upon, the writer claiming that the two diseases had only one point in common, viz.: That in both there was an inflammation of the lung, and, that, in fact, catarrhal pneumonia was merely a local disease, while croupous pneumonia was a constitutional disease with a local (lung) manifestation. The specific cause of croupous pneumonia yet remained undiscovered; the disease must run its course, and that treatment must therefore be symptomatic. He also urged the importance of giving croupous pneumonia its proper classification in mortuary statistics.

Dr. W. C. Dabney read a paper on "Nature and Treatment of Pneumonia," with conclusions as follows:

Two views are held as to nature of pneumonia—one that it is a specific fever; the other, that it is a local inflammation of which the fever is symptomatic.

Arguments in favor of the first view:

1. The disease ordinarily commences with a chill.

2. The constitutional disturbance is often out of proportion to the local disease.

3. The disease usually runs a definite course, and is self-limited.

4. The disease occasionally occurs as an epidemic.

Arguments in favor of second view:

Traumatic pneumonia is precisely similar to the idiopathic form.

The indications of treatment in the first stage are: (1) To lessen the amount of blood in the lungs, and to check, as far as possible, the extension of the inflammation. (2) To reduce the temperature; and (3) to relieve pain.

To fulfill the first indication, blood-letting, diaphoretics, saline purgatives, and cardiac sedatives are to be employed.

To fulfill the second indication, quinine is the most important agent.

To relieve pain, sinapisms, wet and dry cups, and opiates may be resorted to.

In the second stage, the indications are: (1) To lessen the consistency of the fibrinous exudation; and (2) to prevent over-distension of the heart.

To fulfill the first indication, alkalies, especially carbonate of ammonia, are to be employed.

To fulfill the second, alcoholic stimulants are especially useful. Digitalis may also be used with advantage. If so much respiratory surface is involved as to interfere seriously with respiration, oxygen gas should be used.

In the third stage, tonics, a nutritious diet, etc., are advisable.

The Chairman said that the reading of these two valuable papers having been finished, he would call for the discussion on this, one of the most important subjects now before the medical profession.

Dr. Lynch, of Baltimore, opened the discussion, and said that the various arguments which go to prove that croupous pneumonia was a zymotic disease had failed to convince him that such was the fact. If it was a zymotic disease, then the treatment was a matter of little or no importance, and should be merely symptomatic, while if it was a local disease, the treatment was of great importance. He believed that it was often aborted by the

use of the proper remedies, and had often seen the so-called defervescence produced in a few hours by the use of veratrum viride.

Dr. Whittaker classed himself with those who believed croupous pneumonia to be an acute infectious disease (not, of course, contagious). One point in the differentiation of this disease had not been brought out, viz.: Catarrhal pneumonia attacked old people principally, while croupous pneumonia was confined to young ones. This, he thought, was a point of importance in diagnosis of cases.

Dr. Burlington, Vermont, did not think we could begin to treat the disease intelligently until we had determined its cause.

Dr. Lester, Missouri, had failed yet to hear the argument which convinced his mind that pneumonia was a zymotic disease. He thought, also, that the discussion yesterday proved conclusively that blood-letting was applicable to a very limited number of cases.

Dr. N. S. Davis, Chicago, had never been able to decide that pneumonia was zymotic, but believed it to be local. He rose to protest against the course of reasoning pursued by some members. Even assuming that pneumonia was a zymotic disease and ran a definite course, this was no reason why it might not be cut short, and the physician had no right to fold his hands and do nothing because of such reasoning.

Dr. Lynch, of Baltimore, approved of Dr. Davis' remarks, but thought that, in the present state of our knowledge, we were not justified in using any remedy about which we were uncertain in an attempt to cut it short. In reference to the use of the alkalies in pneumonia, he believed them to be valuable, particularly carbonate of ammonia, in certain stages of the disease, but not in the initial or even second stage.

Dr. Octerlony said that it seemed to be settled by discussion that if pneumonia was a zymotic disease it could not be cut short, but if local, it could. Pneumonia, he thought, was a self-limited disease. In regard to the zymotic character of the disease, he must confess, his mind had not been convinced; thought it local; wished to call attention to the danger of death from heart-clot.

He thought carbonate of ammonia useful in other stages beside the third.

Dr. Ball, of Ohio, thought the idea of pneumonia being a self-limiting disease, and founding treatment upon that idea, to be exceedingly erroneous, and calculated to do great harm. Thought the disease could be cut short, and called attention to the method of treatment by repeated emetics early in the disease, and claimed that it was valuable in aborting the disease.

Dr. McCaul, of Michigan, thought that in his section, venesection was not admissible, and that cardiac sedatives must be used with extreme caution. Did not think the disease was purely zymotic, but thought there was a zymotic condition of blood which tended to produce it.

Dr. Whittaker, of Cincinnati, asked if pneumonia were a local disease, what caused it? certainly exposure did not. We had, he thought, no right to call it a local disease until we knew its etiology.

On motion of Dr. Davis, of Chicago, the discussion upon this subject was closed, and the papers referred to the appropriate committee.

The Secretary read by title a paper by Dr. Robertson, of New York, who was absent, entitled, "Nature and Treatment of Pulmonary Phthisis." Referred to committee.

The time until adjournment was then occupied in the reading, by Dr. Bulkley, of New York, of a very valuable and interesting paper on the "Diet and Hygiene of Eczema."

THIRD DAY.

SECTION OF PRACTICE OF MEDICINE.—Dr. L. Duncan Bulkley, of New York, read a paper upon "The Diet and Hygiene of Eczema." The paper was based almost wholly upon the experience of the writer, inasmuch as very little thought had been bestowed on the subject by others, and no explicit instructions were to be found in relation to the matter in the text-books or writings on the subject.

After calling attention to the effect which certain articles, as shell-fish, strawberries, bananas, etc., produced upon the skin of hose who were peculiarly disposed thereto, in causing erythema

and urticaria, and also the well-recognized eruptions from iodide and bromide of potassium, quinine, etc., he stated that in like manner articles of food and modes of life surely did produce cutaneous changes, and that the genesis and obstinacy of many cases of eczema, rested upon errors which existed in nutrition from faulty diet and hygiene. Give perfect nutrition, and eczema disappears. The errors were not always apparent, and often required to be searched for.

In regard to the true meaning of dieting in this connection, he did not intend thereby a starvation process, as too often supposed, with an idea of starving out the disease, but his definition of diet was as follows: "*Such a regulation of the quantity and quality of the food and drink taken, its mode of preparation and time and method of consumption, as shall conduce to the restoration and maintenance of health.*"

In the further development of the subject, he considered separately each element of this definition, calling attention to the errors constantly found in patients suffering from eczema. During the nursing period, too frequent feeding was a source of trouble, the breast should not be given to the child each time it cried from the irritation of the disease. He also called attention to the very great importance of securing healthy breast-milk, and stated that attention should be paid even more to the mother than to the child; if she has constipation and dyspepsia, if her secretions from the bowels, kidneys, etc., are not normal, that from the breast was not normal, and could provoke disease in the child. Ale, beer, excessive use of tea in the mother, and other troubles, as even debility, could excite and continue the disease in the child. He also called attention to the error of feeding children at the breast, or those of older years, with the food of adults, and stated that he daily found the grossest errors of diet in eczema patients. The nurses, to whom so much is often committed, are from the lower walks of life, and know nothing of the laws of health. All these points must receive careful attention from the physician in order to obtain success in obstinate cases.

In the eczema of older life, he called attention to the general disuse of fat found in these subjects, and believed that this was a

very important point in the management of these cases; but the fat taken should be in healthy form, and its digestion secured; pasty articles in which fat was found were not desirable, and should be avoided in eczema. Ale, beer and wine were also interdicted; tea and coffee in moderation were not injurious, but tea in excess he had frequently recognized as an element of injury in eczema patients.

Many other points were stated in regard to special articles of food, and also in reference to "its mode of preparation and time and method of consumption," and stress was laid upon the necessity of all these homely subjects receiving the careful attention of the physician, inasmuch as the laity were grossly ignorant in the matter.

In regard to hygiene, attention was called to proper and sufficient exercise, bathing, etc., indeed to every item which could in any way conduce to the health of the patient.

Dr. Whittaker, of Cincinnati, read a paper on the Treatment of Diphtheria, taking the ground that diphtheria was first a local and afterwards a general disease, that it is only when the epithelial barrier is broken down that the blood and body become infested. The essayist maintained that the poison passes over into the blood little by little, new quantities reinforcing the first installments until the blood is super-saturated with the disease. The treatment therefore resolved itself into treatment of the poison at the local depot and relative neutralization of virus in the blood. The efficacy of the antiseptics quinia, salicylic acid, and the benzoates was next discussed, and the experiments with the latter of Buckholtz and Graham Brown, whereby it was shown that saturation of the blood with the benzoates renders inoculation impossible. The essayist next maintained that although we could not kill the germs of the disease in the throat, we could so condense its mucous membrane as to make it a dam to the influx of the disease. To effect this purpose the essayist recommended the per-sulphate of iron in full strength, applied well up behind the velum palati. Though the per-sulphate of iron was one of the oldest recommendations of practical medicine in the treatment, the author believed its occasional inefficacy and present comparative disuse to be due to the dilution of the solution. The

author knew very well the fallacy of basing conclusions upon experience, and mentioned the fact that he had never had a fatal case since the use of this treatment, and to state that he had never seen any accidents incidental to the treatment.

The writer did not believe in the contagiousness of dysentery, nor did he think that bacteria were always present in the evacuations. Neither did he think that it was due to malaria or scorbutus, though either one might complicate it. In spite of Dr. Austin Flint's forty-four cases (and the writer deemed this number too small for a basis of belief), he thought dysentery might occur at any season. He does not think that there is any clinical difference between catarrhal and epidemic dysentery. The tendency of the disease, when influenced by treatment, was towards recovery.

The first indication of treatment was to get the bowel into a proper condition to receive medication. 2. Diet; 3. Rest; 4. Demulcents; 5. Control of morbid processes.

Ipecac was, he thought, unnecessary in the majority of cases met with in common practice. Ergot, coto bark, injections, suppositories, etc., all received due mention.

The paper was referred, without discussion, to Committee on Examination.

A paper by Dr. I. E. Atkinson, on the Production of Albuminuria by Use of Iodide of Potassium in Syphilitic Disease, was an exceedingly valuable contribution, showing great research, and provoked a very interesting discussion in which many members took part.

Dr. Whittaker, of Cincinnati, did not think anything more than a transient albuminuria would be produced by the use of the potassium, but thought it was, more likely, caused by renal cirrhosis. It would certainly be more in accordance with our present knowledge of pathological anatomy to attribute these cases to the disease and not the remedy.

Dr. Octerlony wished to emphasize the fact that albuminuria was not a disease, but merely a symptom—one that might occur in perfectly healthy persons.

Dr. Lynch, Baltimore, was surprised to learn that iodide of potassium was accused of producing albuminuria; always used

iodide of potassium in half drachm doses in Bright's disease, and always with happy effect.

Dr. Dillard, of Lynchburg, corroborated the statement of Dr. Lynch.

Dr. Atkinson said that he did not bring any charges against the use of iodide of potassium in general, but merely made an inquiry into one special use of it, with the view of showing what he thought was one of its disadvantages. He regarded iodide of potassium as one of our most valuable remedies, and when it produced changes in the mucous membrane of the kidneys, he attributed it to an idiosyncrasy on the part of the patient.

On motion, the paper was referred to the Committee on Examination.

Dr. Henry A. Martin, of Boston, read a paper upon the Variola Vacciniæ and Variola Equiniæ in Massachusetts.

In this paper the Doctor reported a series of cases of cow-pox (which were, so far as he knew, the first authentic cases reported in this country), which were of great interest. He also reported a case of variola equinæ, the seventh authentic case since the days of Jenner. In conclusion, the Doctor moved that this Section recommend to the Association that a committee be appointed to visit these various farms and investigate the whole subject of bovine virus, as it was one subject to many and great abuses. Carried.

The Materia Medica of the Future was the title of a paper by Dr. F. E. Stewart, of New York. He maintained that physicians should know the methods of manufacture of drugs. The profession is under many obligations to pharmacy for the elegant preparations of drugs. It is the physician's prerogative to treat the sick, and to dictate how his medicine should be prepared. The code of ethics of the profession prohibits the prescription of secret formulæ, or the holding of a patent on an instrument. But trade has so affected pharmacy by patents, copy-rights, trade-marks, secret formulæ, etc., that a physician is obliged to stultify himself to gain the advantages of many of the improved forms of medicine. Either the code should be altered, or the methods of trade should be changed to meet the requirements of the code. If the patent system be admitted by the profession, the protection by

law should be limited, and under the same restriction as applies to other trades, and the exact working formulæ made known; or else no druggist should be allowed to prescribe for the sick, and that no physician should prescribe patent medicine whose nature was unknown.

The paper was referred to the Publishing Committee.

The following resolution, offered by Dr. Dunster, was adopted:

"*Resolved*, That the spirit of the code of ethics forbids a physician from prescribing a remedy controlled by a patent, copyright, or trade-mark. This however shall except a patent upon a process of manufacture or machinery, provided the patent be not used to prevent legitimate competition; and shall also except use of a trade-mark used to designate a brand of manufacture: provided that the article so marked be accompanied by working formulæ, duly sworn to, and also by a technical, scientific name under which any one can compete in manufacture of same."

Dr. Upshur, of Richmond, Virginia, read the report of a case of paralysis of motion of both upper extremities in which the prominent symptoms were complete paralysis of motion of both upper extremities *except in the hands*, intense pain in the shoulders on any attempt to lie down, and inability to sleep. The attack was ushered in by convulsions epileptic in character.

Referred to Committee.

FIRST DAY.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.—Chairman, Dr. James R. Chadwick, of Boston; Secretary, Dr. Joseph Tabor Johnson, D. C.

Résumé of Rules for the use of Pessaries.—Dr. Paul F. Mundé, of New York, made a brief recapitulation of the rules governing the introduction and supervision of vaginal pessaries (including vagino-abdominal).

1. Always be sure of the diagnosis of the nature and degree of the displacement before resorting to a pessary.

2. Always replace the uterus before applying a pessary. This applies particularly to retro-displacements. It is well to replace the uterus repeatedly, every day or twice daily, for several days before introducing a pessary. The replaced organ may be supported by a cotton tampon in the interval, if it is desired to distend and toughen the vaginal pouch; or the object of relaxing the abnormally stretched uterine ligaments may have been ob-

tained by the mere repeated replacement. In flexions, chiefly ante-flexions, the frequent straightening of the uterus, or conversion into the opposite flexion by the sound, will often prove beneficial before introducing a pessary.

3. Never insert a pessary when there is evidence, by the touch, of acute or recent inflammation of the uterus or adnexa, or when pressure by the finger on the parametrium (where the pessary is to rest) gives decided pain.

4. When the uterus is not replaceable—that is, when adhesions bind the fundus down—use great caution and discrimination in deciding whether an attempt should be made and is justified by the symptoms, to elevate the fundus by manual or instrumental means, or whether the elevation should first be tried by the gradual elevation of a pessary (this applies only to retro- and latero-versions). If neither is to be recommended, do not introduce a pessary until local alterative and absorbent measures have affected a resolution of the adhesions.

5. Always choose an indestructible instrument, if possible. This does not apply to prolapsus uteri.

6. Always measure and estimate the vagina carefully before choosing a pessary, and be careful to adjust the pessary in every particular (size, curve, width) to that particular case. No two vaginæ are exactly alike.

7. If the vaginal pouch is not sufficiently deep to accommodate a pessary (anterior pouch for ante-displacements; posterior pouch for retro-displacements), defer the attempt to fit a pessary until the pouch has been deepened by daily tamponing with cotton, or by the upward pressure of a Cutter or Thomas vagino-abdominal supporter. Or the pouch may be gradually deepened by using first a small (slightly curved in retro-displacement) instrument, and gradually increasing its size for curve, until the desired size and shape for permanency is reached.

8. Never leave a pessary in the vagina which puts the vaginal walls to the stretch, and which does not permit the passage of a finger between it and the wall of the vagina. This does not apply to prolapsus uteri.

9. A vaginal pessary which projects from the vulva is displaced.

10. A pessary which gives pain must at once be replaced by one which is painless.

11. A well fitting, properly chosen pessary should not only give no pain, but should be a direct source of comfort to the patient.

12. Always examine a patient on her feet after introducing

a pessary, or when it is desired, at her return, to ascertain its efficiency in sustaining the uterus during walking and exertion.

13. Always tell the patient that she has a pessary in her vagina, or she may not return in spite of your directions, and the pessary may remain for years, to her ultimate great discomfort and danger.

14. Always tell the patient to return within a week after the first introduction, in order that the position and working of the pessary may be looked after, and that, if it does not suit, it can be removed and a better one inserted. Tell her that several trials and various instruments may be required before one is found which she can wear permanently. Also let her return for inspection once every four to eight weeks, as the case may require. Tell her that if she fails to do so the pessary may cause ulceration, for which treatment will be needed.

15. Tell the patient that she will need to wear the pessary for months, perhaps years, before a recovery can be expected.

16. Never introduce a pessary which a patient cannot remove herself.

17. Tell the patient to remove the pessary herself if it gives pain, and show her how to do it. When she has removed it, let her present herself at once for examination.

18. Tell the patient to use daily vaginal injections for cleansing purposes. If she notices profuse discharge, add astringents; if the discharge is sanious or purulent, let her come at once, as the pessary has probably caused abrasion.

19. Tell her, on removing the pessary, to test the result; that the permanence of the benefit obtained therefrom cannot be determined for several days or weeks.

20. Always direct your patients to relieve all superincumbent pressure on the pessary by a proper support of their skirts, and, if the displacement be anterior, aid the internal supporter by an abdominal (supra-pubic) pad.

All pessaries may be introduced in the knee-chest position when it it is desirable or possible to replace the uterus only in that position.

A Sims speculum elevates the perineum, the air enters and expands the vagina, and the pessary (chiefly in retroversion and prolapsus) is introduced by touch and sight, and the patient laid over on her left side. For aggravated retroversion and for prolapsus of ovaries or uterus, this position offers many advantages over the left semiprone decubitus. Care must be taken to re-

member that the position of the patient is reversed, and that the pessary must be introduced accordingly.

Dr. R. Beverly Cole, California, spoke after Dr. Mundé. He said the Hodge pessary was the first one invented which showed any knowledge of the anatomy of the female organs. He said no two pessaries were exactly alike. Dr. Albert Smith, of Philadelphia, had constructed one which had the peculiarity of Simpson's (also Hodges') hard rubber instrument. He then exhibited his pessary with the important modification of a spring support for retroversion. The great advantage claimed by Dr. Cole for this modification over others for this class of cases (retroversion) is that there is no risk of inflammation from the uterus having to impinge during the various movements of the person, upon a rigid, unyielding point. Dr. Cole thought that the numerous pessaries of Thomas were valueless for anteversion. In his hands the anteversion cup pessary of Thomas had failed, but Dr. Mundé, of New York, had used them successfully. Dr. Cole's hard-rubber pessary with spring modification has been most serviceable in anteversion.

Dr. Cole said he was not aware that a condition of the uterus, which he characterized as *atony*, had ever been described before. The organ becomes flabby and soft, settles down on the posterior wall of the vagina, and makes a double curve, the first forward, the second backward, and the os turned upward and forward on the posterior wall of the vagina. The Doctor illustrated this by a diagram on the blackboard. The upper curve often confuses the gynæcologist, and it is called sometimes a fibroid, sometimes the fundus of an anteflexed uterus. Great difficulty is often experienced in introducing the sound, and it may be often accomplished by turning the sound exactly in the opposite way, or its convexity backward. He had first commenced to treat them with an English bougie introduced every second day as an excitant to produce afflux of blood to the organ, and thus restore tonicity. Afterwards he got from Dr. James Simpson, of Edinburgh, the idea of the galvanic intra-uterine stem pessary, made above of zinc and below of copper. The intra-uterine stem galvanic pessary of Dr. Cole differs from that of Dr. Simpson in this important particular; the current in Dr. Simpson's is

limited to the point of union of the two metals at the center of the staff, whilst Dr. Cole's, having the two metals arranged as plates running longitudinally, insulated by an interposing layer of hard rubber, distributes the current the *whole length of the stem*. This pessary is, according to Dr. Cole, in *super*-involution (atrophy) of the uterus, invaluable. By means of this instrument he has built up the uterus from its atrophied condition to one of health, brought back the menstrual function which had been absent for five years, and had the satisfaction of seeing pregnancy supervene.

Dr. Cole next exhibited an instrument of his invention which he called a gas cautery, for the cauterization of the mucous membrane of the cervical canal in cases of fungus growths thereon and other conditions. The Doctor advocates the use of *red* instead of *white* heat in these operations, as the *red* is less apt to cause troublesome hæmorrhage. He can produce a red heat in thirty seconds with this instrument.

He next showed Simpson's method of making pessaries to suit individual cases by moulding gutta-percha, previously softened in warm water, in the hands.

Dr. Chadwick next made the discussion general, and called upon Dr. Albert H. Smith, of Philadelphia, who said that, in his opinion, pessaries were too much in use, as they were often hurtful if not used judiciously. He said his pessary was only intended for retroversion and prolapsus. Anteversion, anteflexion and retroversion he had frequently relieved by means of the intra-uterine stem pessary, but he did not believe in the galvanic action. He thought it simply mechanical.

Dr. H. P. C. Wilson, of Baltimore, Maryland, agreed with Dr. Mundé, of New York, as regards the importance of ascertaining whether the uterus can be lifted up before introducing any pessary. He said he was often compelled to use a dozen or more before he could get one to fit with comfort. He remarked that he had once succeeded in relieving a case of anteflexion by introducing Hodges' horseshoe pessary. Dr. W. did not approve of stem pessaries. He said he had the best results in anteflexion from splitting the cervix backwards and the os internum backwards and forwards.

Dr. Maughs, of St. Louis, discussed the ligamentous supports of the uterus, and dilated upon the importance of the vaginal walls and perineum as supports. He said that, in his opinion, stem pessaries had killed hecatombs of women. He said anterior displacements were the rule in virgins, posterior in multipara.

Dr. Quimby, of Jersey City, said he had never derived any satisfaction from the use of stem pessaries, and said that he more and more inclined to avoid the use of all pessaries as he grows older.

Dr. Mundé was requested by the Chair (Dr. Chadwick, of Boston) to close the discussion, and rose to make some explanations, and was followed by Dr. R. Beverly Cole in a few closing remarks.

Adjourned till 3 P. M., May 4.

SECOND DAY.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.—Chairman, Dr. Jas. R. Chadwick, of Boston, meets at Wilkinson's Hall, at 3 o'clock P.M.; Secretary, Dr. Joseph Tabor Johnson, D.C.

Dr. F. C. Larrimore, of Ohio, opened the discussion on the Investing Capsule of Uterine Fibroids.

Dr. Dunster, of Ann Arbor, Mich., followed. He stated that there was, according to his experience, an investing capsule proper.

Dr. Dunlap, of Ohio, cited a case.

The Chair (Dr. Chadwick, of Boston) called on Dr. Burn, of Brooklyn, N. Y. Dr. Burn stated that he had examined a large number of uterine fibroids, both of the pediculated and sessile varieties, and utterly failed to find anything which he thought he could call a capsule proper. He said he was free to admit that he *always* found a more or less dense fibrous investment, varying with size and location, but considered this only the displacement or condensation of cellular tissue by the morbid growth or the result of hypertrophy.

Dr. Albert H. Smith, of Philadelphia, agreed with Dr. Burn, and spoke briefly in support of his position.

Dr. Erich, of Baltimore, considered it a matter of no conse-

quence whether the investing membrane be called a capsule or not. There is always more or less of it.

Dr. Albert H. Smith, of Philadelphia, called on the Chair (Dr. Chadwick, of Boston) to give his experience. Dr. Chadwick declined.

Dr. Maughs, of St. Louis, cited a case operated on by Dr. J. Marion Sims, of New York. He said that when the tumor was removed, he was sure that all of the morbid growth had not been taken out, as a part of the mass showed an absence of the usual investing membrane. He said that a part of the uterine tissue adhering to the mass might have caused the same appearance. [Reporter could not hear whether he stated that the tumor returned or not.]

Dr. E. S. Dunster, of Ann Arbor, Mich., remarked that the discussion was only a war of words as long as no one defined precisely what an investing capsule is.

Dr. H. P. C. Wilson, of Baltimore, was requested by the Chair to exhibit the uterine dilators of his own construction. Dr. Wilson then rose and exhibited his instruments with a number of others of other makers. In the course of his explanatory remarks, he said that he considered the finger-nail the best curette. The dilators often enable the gynæcologist to dispense with tents, the use of which is usually avoided when it was practicable. He then cited the case of a virgin with intra-uterine fibroid, in whom he used a tent to begin the dilatation and followed it with the dilator; then after sufficient dilatation he removed the tumor with the curette of Thomas, with complete success.

Dr. Wilson thinks it very important to remove the placenta after abortion, or even normal labor, by instrumental means, if it does not come away spontaneously very soon. He advises the use of anæsthetics when this is to be done. He thought dilatation useful in atonic conditions of the uterus as a means of stimulating the organ.

Dr. R. Beverly Cole, of San Francisco, differed in toto, he said, with the last gentleman (Dr. Wilson.) He fears active inflammation from injury done in forcible dilatation. He dwelt on the fact that often serious trouble arises from very trivial injuries to this organ. He has known forcible dilatation to pro-

duce the severest forms of pelvic cellulitis and endometritis. The doctor does not think tents produce septicæmia if used discreetly.

Dr. Mundé, of New York, took issue with Dr. Cole, and supported Dr. Wilson's arguments in favor of his (Dr. Wilson's) instruments. He had often used them without bad results.

Professor King, of Washington, D. C., was then called on by Dr. Cole. Professor King thought that instrumental appliances were dangerous, and that the tendency was growing to resort too frequently to them. He advocated strongly giving nature a fair opportunity, and if it proved inadequate, he thought that the safer and milder methods should be tried first. Then, in case of failure, the physician, he said, could resort to the use of instruments. He said that often a purgative would cause an adherent placenta to be expelled if the patient were put in the upright position on a vessel to evacuate the rectum. Emetics often have the same effect by causing the muscular contractions incident to vomiting. A pinch of snuff, causing sneezing he said, would even effect the expulsion in some cases, if the nose were held during the act. He thought Hippocrates, with all the lights of the nineteenth century before him, would use, if he were still alive, some of his primeval methods in these cases before resorting to the brilliant and powerful array of instruments now in our armamentarium.

Dr. Erich, of Baltimore, took issue with Prof. King, but thought that he was almost too much afraid of instruments. He thought: "*In medias res tutissimus ibis.*"

Dr. Warner, of Massachusetts, agreed with Dr. Erich.

Dr. Robert Battey, of Georgia, agreed with Dr. Warner. He was of opinion that the tendency now-a-days was to resort to instrumental methods for too trivial causes and far too frequently. Dr. Battey said the "*vis medicatrix naturæ*," was often sufficient when it was not thought to be. He said Dr. Wilson's instruments were well enough, but it depended entirely upon the hand and the head that guided.

Dr. Albert A. Smith, of Philadelphia, does not approve of Dr. Wilson's dilators. He much prefers the tents. He says the instruments make small lesions about the cervical canal, hence the dangers of septicæmia, in careless hands. The tents, he thinks, are safer if not withdrawn before the end of forty-eight

hours instead of twenty-four, as is usually done now. The tents ought to be *cylindrical* (not conical), and should be rubbed over with moist soap and dipped in a solution of salicylic acid before being introduced.

Dr. Maughs, of St. Louis, agreed with Dr. Smith. Thinks Dr. Wilson's instruments too dangerous. He says the finger can often be introduced into the uterus by placing the point at the os and assisting with the other hand externally on the abdomen. He advocated the use of tents very strongly.

Dr. H. O. Marcy, of Boston, defends tents used antiseptically.

Dr. H. P. C. Wilson replied to the arguments used against his instruments, that the objections urged by the gentlemen were rather against the injudicious use of than against his instruments.

Dr. H. O. Marcy, of Boston, at the request of the Chair, exhibited his double drainage and injection tubes. He showed in a very striking manner how they could be used as a means of applying warm water through the rectum in cases of pelvic cellulitis, or as a stomach-pump with Davidson's syringe. He also cited a case of cystitis, which was cured by keeping up a continuous stream of warm water through the bladder for twenty-four hours.

THIRD DAY.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

The Chair announced the following committees:

Committee for Selection of Subject of Essay—Prof. E. S. Dunster, Michigan; Prof. G. M. B. Maughs, St. Louis; Dr. H. M. Field, Boston.

Committee of Award—Dr. Robert Battey, Georgia; Dr. Albert H. Smith, Philadelphia, Pa.; Dr. P. F. Mundé, New York city.

Committee to which Papers for Publication are referred—Dr. Joseph Tabor Johnson, Washington, D. C.; Dr. John Byrne, Brooklyn, N. Y.; Dr. H. P. C. Wilson, Baltimore, Md.

Can we Make a Positive Diagnosis of Pregnancy Previous to the Occurrence of the Audible Sounds of the Fœtal Heart and the Detection of the Fœtal Movements? was the subject of an article by Dr. Joseph Tabor Johnson, of Washington, D. C. It

is claimed that in the softened condition of the cervix uteri and the pinkish color and increased temperature of the vagina, we have quite positive diagnostic evidence of pregnancy. It is admitted that the only positive and indisputable signs are determined by auscultation, ballottement and fœtal movements; but these signs are not usually present in the first half of pregnancy. The presence of kiesteine in the urine, milk in the breast, the odor of vernix caseosa upon the finger as it is withdrawn from the vagina after a digital examination, the smooth condition of the anterior wall of the vagina and the anterior cul de sac, associated with a pinkish-purple color of the vaginal mucous membrane, the placental souffle, the existence of *gravidene* in the urine, the presence of certain caseous elements, resembling milk, in the urine, were all passed in review as diagnostic signs of pregnancy; but no definitely stated conclusions were arrived at.

Dr. R. Beverly Cole, of San Francisco, California, did not hear the whole of Dr. Johnson's paper, but thought from what he did hear, it was rather an interrogation than a treatise. He then stated that there were three physical signs of pregnancy which he relied chiefly upon, viz: 1st, placental souffle; 2d, pulsation of the cord, and 3d, the sounds of the fœtal heart. He regarded the last as the best and most reliable of them all. The pulsations vary from 110 to 140—double that of the mother. He described the sound as resembling the ticking of a watch under a pillow. Dr. Cole thought no signs positive enough (generally) to justify one in giving *decided* opinions when consulted on this point. He then cited a case, that of a girl who came to him and wished to ascertain whether or not she was pregnant. She appeared to be about six months advanced. Placental souffle was present, but no pulsation. The navel was protruding—admitted that she had intercourse with a man about six months before, and had not menstruated since. The Doctor then made an appointment for another examination, but she went to another physician, who examined her six times, called in some three or four others in consultation, who advised the introduction of a sound. This was done, and when it was withdrawn the discharge proved that it had penetrated into an abscess which Dr. Cole thought was undoubtedly due to pelvic cellulitis.

Dr. Albert H. Smith, of Philadelphia, thought placental souffle the most unreliable of the signs mentioned by Dr. Cole. He was anxious, he said, to hear Dr. Joseph Tabor Johnson's results from the thermometric observations on the cervix uteri. He thought Dr. Johnson's suggestions in regard to the application of the telephonic principle to the uterine sound, and the use of the electric light for illuminating the vagina, very good—quite brilliant, he would say. Liked the bi-manual method best of all.

Dr. Paul F. Mundé, of New York City, agreed with Dr. Smith. His favorite method was the bi-manual. He thought Dr. Smith had touched the key-note in making this statement. He thought that this method, taken with the other signs usually associated, would enable one to make out a case better than any other methods he knew of. He cited a case in support of his position.

Dr. Alex. Dunlap, of Ohio, agreed with Drs. A. H. Smith and Joseph Tabor Johnson. His method was the same, the bi-manual. The presence of fibroids may sometimes mislead as they enlarge the womb, but they are generally hard when small. Sometimes soft and dropsical when large, and rarely symmetrical. These points he thought are well to notice. Sanious discharge from the os is strong evidence of intra-uterine fibroid.

Dr. James M. Scott, of St. Louis, wanted to know if it was not a very difficult thing to use the bi-manual method on a fleshy patient, which was answered in the affirmative.

Prof. G. M. B. Maughs, of St. Louis, wanted to know if there were any signs by which we tell that a woman was *not* pregnant. (Dr. Joseph Tabor Johnson, of Washington, D. C., suggested, "Are there any signs by which we tell that a woman *is* pregnant?") Dr. Maughs adhered to the original form of his query. He thought that we have an almost certain method, viz., the bi-manual. He said that the measurement of the uterus laid down for the various weeks of pregnancy would enable us to determine after examining.

Prof. A. F. Erich, of Baltimore, disagreed with Prof. G. M. B. Maughs, of St. Louis, on the ground that the standards of measurement are too variable. He thought the thermometric

indications in the os uteri would prove of great value as an aid in diagnosis.

Dr. Robt. Battey, of Georgia, arose and stated that he was surprised that no gentleman had mentioned any of the following aphorisms, in doubtful cases:

1st. Always consider a married woman pregnant if living with her husband until *proved* otherwise.

2d. Always consider an unmarried woman innocent till *proved* guilty.

3d. Always believe that a woman married, of the highest character, living with a husband of equally high character, both solemnly assuring the medical man that no intercourse has taken place for two years, as she has been bedridden for that length of time, may bring forth a dead fœtus.

4th. Always believe a young unmarried woman, with abdominal tumor, of high social position and unimpeachable virtue, if she has been watched over by a platonic and abstemious young cousin of the male persuasion, while the mother went out, to be pregnant.

Dr. Battey sat down amidst great applause and laughter.

Dr. James R. Chadwick (chairman), of Boston, drew a diagram, on the board, of the pelvic organs, and illustrated his methods of bi-manual examination.

Dr. Albert H. Smith, Philadelphia, drew a representation on the board of a thermometer made with an angle and guards for taking the temperature of the cervix.

Dr. J. R. Chadwick stated that he had noticed blueness of the vagina in many cases of pregnancy at various stages.

Dr. Alex. Dunlap, Ohio, is very careful about introducing the sound. He makes his digital examinations whilst the patient is standing.

Dr. —— Jennings, of ———, wanted to know whether the uterine normal temperature was not higher than the rectal or sublingual.

Dr. A. H. Smith replied that it was not in pathological (except inflammation) or the healthy, unimpregnated states.

Dr. Johnson asked Dr. Dunlap to give his experience as to the blue color of the vagina in cases of fibroids.

Dr. Dunlap said that as he rarely used the speculum, he had none.

Dr. Johnson closed by making a few remarks on the subject, which the reporter failed to get.

Dr. Paul F. Mundé, New York city, exhibited a curette for the removal of adherent placentæ after abortion, designed by himself. Dr. Mundé also exhibited a speculum with a flange for holding up the buttock, which he had had made; also two smaller curettes. He said he thought it best to remove the placenta reasonably soon if it did not come away in cases of abortion.

Here followed a long discussion on this point, which was participated in by Drs. Maughs, Dunlap, Marcy, Smith, Johnson, Erich, Chadwick and G. McDonald, who said he was a "country doctor," and always removed them at once by means of instruments if he could not do so with the finger, as he could not see his patients often or quickly enough in dangerous cases. The other gentlemen agreed pretty nearly with Dr. Mundé.

Dr. Mundé closed.

Adjourned.

FIRST DAY.

SURGERY AND ANATOMY.—Chairman, Dr. Hunter McGuire, of Virginia; Secretary, Dr. Duncan Eve, of Tennessee.

Dr. Joseph H. Warren, of Boston, Mass., opened the work of the Section by exhibiting a collection of instruments devised by himself:

First. A few vermicular pointed catheters of three sizes. They combine the advantages of a screw and wedge, and its use is attended with less irritation and less difficulty of introduction. The next was his modification of Sir Henry Thompson's tube. It consists in having a tip, one-half of which is thrown back by a spring after it has entered the bladder. It acts as a scoop and allows of a free passage of the fragments. The tip may be made to revolve or be stationary. The straight tubes used by Bigelow may be made with this tip. It may be used to remove balls from gunshot wounds, foreign substances from nose, throat, or ear; for these cases smaller tubes may be used. A third instrument was

a Bigelow tube with a vermicular point. Much larger tubes of this sort with less shock are passed. Many of the dangers of large instruments are overcome by its use. The writer names this the Thompson-American Tube, in honor of Sir Henry Thompson. The next shown was a uterine probe with revolving point. This has a fenestrated opening which can be threaded with a tuft of cotton. The next were a set of rapid dilating urethral and uterine sounds with revolving bulbular points, and also may be used for œsophagus and anus. The next was a trocar with revolving point—useful for tapping cases of general anasarca, etc. The next was a serrated herniotome ; hæmorrhage, with its use, is less. Dr. Goldenbird's torsion forceps were also exhibited. Also, a self-retaining trocar for paracentesis thoracis. The next was his latest devised hernia syringe, and finally an instrument called the demonstrator's knife—useful in dissecting veins, arteries and nerves. He also exhibited a modified sound which he thought possessed many advantages.

Dr. Lewis A. Sayre, of New York, did not think the sound possessed anything to recommend it.

Dr. Gouley, of New York, saw no advantage in the rotary spiral sound—not even simplicity to recommend it.

Doctor Burchard reported an interesting case of ulceration of the appendix vermiformis, with remarks upon abdominal section in cases of perforation of the bowel. The writer took grounds strongly in favor of operative interference, and based his opinions on experience in many cases. Dr. Burchard advocated early operative interference in inflammatory affections around the cæcum. The operation is easy. An exploratory incision can be made for diagnostic purposes. Referred to acute perforating typhlites. Thinks it should be divided into acute and chronic cases ; the acute require surgical interference. Also has noticed some cases which appear to be recurrent. Thinks it better to stitch the intestine to the abdominal incision and make an artificial anus ; and above all, thinks it our duty to give the patient the benefit of the operation with due antiseptic precautions.

Dr. James E. Reeves, of Wheeling, West Va., presented for Dr. B. W. Allen, of Wheeling, a report of a case of pyonephrosis, exhibiting a nephritic calculus weighing 480 grains.

The case was that of a widow, age, 55 years. Her general appearance was that of a great sufferer. She was sallow, emaciated, asthmatic and constipated. Her bad health dated from her menopause. On examination a large tumor was found extending from the right hypocondrium to the left and to the pelvis. Fluctuation was marked. Aspiration evacuated 18 pounds of sero-purulent matter, and this was followed by immediate relief. It was now found that the tumor had no connection with the liver, and the history of the case forbade the idea of its being ovarian. The benefit from the operation was only temporary, and death resulted. An autopsy showed a tumor extending from the under surface of the liver with which it was in contact, but not adherent downward into the cavity of the pelvis. The lower end of the ileum ran across the tumor to the ileocæcal-valve, producing a constriction noticeable before death. The sac was fifteen inches in length, twelve inches wide, and six through. It contained ten pounds of purulent fluid, and was found to be the remains of the left kidney. An enormous renal calculus was found imbedded in the sac together with smaller ones, weighing 416 grains. At no time were there symptoms of uremic poison, and the other abdominal organs were healthy.

Upon motion, the section adjourned after the above report.

SECOND DAY.

SURGERY AND ANATOMY.—Chairman, Dr. Hunter McGuire, of Virginia; Secretary, Dr. Duncan Eve, of Tennessee, met at Young Men's Christian Association Hall, at 3 o'clock, P. M.

Dr. Charles F. Stillman, of New York City, read a paper upon "A New System of Surgical Mechanics," illustrated by numerous drawings and instruments.

The system demonstrated by Dr. Stillman is based upon the principle of *local extension* as opposed to *general extension* developed by all other systems, which local extension is produced by the use of the sector splint in the various forms shown by him as adapted to the several joints. He first traced the history of this sector splint from the initial idea of two slotted and clamped strips, attached by copper plates, to its present improved and varied form. Having given a cursory mention of Buck's exten-

sion, various modifications of the long splints, Hutchinson's method and Thomas' plan, of Liverpool, he summed up the advantage of his system as follows:

1. Extension at any angle with motion.
2. Extension at any angle with luxation.
3. Fixation.
4. Motion complete or limited—constant or occasional.
5. Exposure of surface about the joint, admitting compression, elastic or otherwise, hot and cold applications, blisters, dressings and easy inspection.

This was followed by an exhibition of splints for the spine, hip joint, knee joint, ankle joint, and elbow. Also, an instrument for reducing cases of talipes in various forms and of long standing, by which instrument the surfaces of the tarsal bones are separated before the foot is made to assume a normal position.

Dr. Kinloch, of South Carolina, thought too much advantage was claimed for such contrivances; thought much could be done by rest secured in other ways; wished this fact was better appreciated; was sorry he could not share the enthusiasm of Dr. Stillman, but had failed to secure as good results.

Dr. Quimby, of Jersey City, N. J., endorsed fully Dr. Kinloch's remarks, and was especially emphatic in approving the treatment of club-foot with adhesive strips, plaster-of-paris, etc., instead of costly shoes and braces. Thought mechanical instruments were sometimes useful, but were also capable of great abuse, and thought that they did not control muscular contraction.

Dr. Alfred C. Post, of New York, read a paper on Plastic Operations on the Face. The first case which he related was one of epithelioma, involving the left side of the face, about 55 millimetres in diameter, extending above to a line within six millimetres of the margin of the lower lid, and below to a line midway between the ala of the nose and the angle of the mouth. The patient was a man 61 years of age. Dr. Post operated on the 15th of May, 1880, by making a horizontal incision, separating the morbid growth from the lower lid, and another parallel incision below the tumor, connecting the two by vertical incisions before and behind. He then dissected up from the adjacent parts the diseased mass, included between the four incisions, leaving a

quadrilateral chasm, nearly of a square form. The two vertical incisions were then extended downwards, the anterior one to a little below the base of the lower jaw, and the posterior one nearly as low as the base of the jaw. From the inferior extremities of these two vertical incisions, curved incisions with their concavities looking backward and upward, were made to the extent of five centimetres, including between them a peduncle of skin and subjacent tissues for the nourishment of the extensive flap. The flap was then drawn up and secured by sutures so as to fill up the whole space left vacant by the removal of the disease. The wound healed throughout, leaving the patient but slightly disfigured. The second case was one of absence of the upper lip, and of the columna nasi, as well as of the portion of the right ala nasi, occasioned by the application of a caustic paste for the removal of a supposed cancer of the upper lip. The patient was a man 65 years of age.

Dr. Post operated on the 1st of May, 1880. He commenced by separating from the cheek a small remnant of the upper lip, which remained at the left extremity, and reversing it so as to form a columna for the nose. He then made two horizontal flaps from the cheeks with peduncles curved downward and forward, and united them by means of pins and sutures, so as to reconstruct the upper lip. A number of supplementary operations were required, and the result was a marked improvement in the appearance of the patient.

Water-colored drawings were exhibited, showing the conditions of these two patients before and after the operations.

They showed the benefit and added much to the interest of the paper.

Dr. D. H. Goodwillie, of New York city, read a paper on Treatment of Arthritis of the Temporo-Maxillary Articulation.

He reported cases treated. Causes of arthritis are local and constitutional. Whenever it occurs, the motion of the jaws becomes impaired according to the cause, severity, and length of the disease, and often requires long treatment to restore the muscles to their normal condition.

The treatment of the arthritis is done by means of an apparatus to relieve the joint of pressure on the inflamed articular surfaces.

It is made as follows: An impression of the teeth of either jaw is taken and an interdental splint made, the posterior part of which is raised a little for the purpose of a fulcrum, on which the back tooth of the opposite jaw rests.

Another impression is taken of the chin, and a rubber splint is made to fit it. A skull-cap is next made to fit the head closely, with elastic bands on each side passing down from it and fastened to the chin-splint.

The interdental splint is placed in position in the mouth, and the back teeth of the jaw closed on the fulcrum of the interdental splint; then, when pressure is made on the chin by tightening the elastic bands connected the skull-cap with the chin-splint, the joint is relieved from pressure.

Dr. Moore, of Rochester, called attention to cases where cicatricial bands caused the trouble—division of which usually cured them.

Dr. S. D. Gross, of Philadelphia, saw comparatively few such cases since the abuse of calomel had ceased; had not been able to accomplish much with wedges, etc.; alluded to section of the bone; had performed the operation.

Dr. Hunter McGuire, of Richmond, Va., said that one of the cases alluded to by Dr. Goodwillie afterward fell into his hands, and he was sorry to inform him that the case was not cured. There was no motion whatever. As every other plan had been tried by Drs. Sayre and Goodwillie, Dr. McGuire took out a wedge-shaped piece of bone just at the angle. The result was good. Also spoke of a case where a bridge of bone passed from upper to lower jaw for eleven years—no movements in joints; yet returned quickly after division of the bridge of bone. Thought with wedges, etc., the treatment should be prolonged.

Dr. Lewis A. Sayre, of New York, applied a cast upon a case of lateral curvature, and explained the action, etc.

Upon motion of Dr. S. D. Gross, a vote of thanks was tendered Dr. Sayre for his demonstration.

Dr. Hodgen, of St. Louis, objects to the jury mast, on the ground that the straps on the child retards the growth of the jaw. Thinks casts cause hernia.

Dr. Sayre said he had never seen any of the bad effects from the method.

Dr. Hutchinson was in favor of self-suspension, raised shoe on the opposite side, friction, massage, etc. Did not think much of this or any brace.

The Chair announced that he appointed Drs. Kinloch, of South Carolina; T. F. Pratt, of St. Louis, and Burgett, of New York, from the Surgical Section on the Prize Award Committee.

Dr. B. A. Watson, of Jersey City, N. J., read a paper, the title of which was "An Experimental and Clinical Inquiry into the Etiology and Distinctive Peculiarities of Traumatic Fever." The writer, in the first part of his paper, enters fully into the history of traumatic fever, presenting the views of Billroth, Wagner and Weber. He is of opinion that the numerous and ever-changing views of the etiology of traumatic fever, beginning with Hippocrates and coming down to our times, reflect for each age the true condition of the medical and allied sciences; but thinks it sufficient to classify all of the theories as the septic, nervous and nervo-septic. The question first to be answered is, What do we understand by traumatic fever? According to the writer's interpretation of the differentiations given by most writers, he thinks it unfortunate to use the term traumatic instead of septic, since many severe traumatisms are not attended with fever. Another objection is found in the fact that recent investigations in connection with the practice of antiseptic surgery suggest the probability of another form of fever developed in connection with wounds unlike that from septic absorption. The symptoms, such as stupor, unfitness for mental efforts, hallucinations, prostration, etc., are not noticeable in this form. Frequently the increased temperature is the only important clinical symptom. Patients with a temperature of 102°–104° go about with ease and amuse themselves. A patient with both arms amputated, treated by Lister's method, and whose wounds healed by first intention, walked all over the house on the day after the operation and continued to do the same with an axillary temperature of 104°. Another who had received a severe compound fracture of the leg, with extensive contusion and laceration of the soft parts from the knee to the malleoli, and who showed an axillary temperature of

105.8°, did not exhibit the slightest trace of illness. There can be no question of the propriety of this division into the septic and non-septic wounds. We observe putrefactive decomposition, septic absorption and septic fever in the wounds which are open to the air; but in those wounds which are purely subcutaneous, or where the antiseptic treatment has been successfully applied, we find only the non-putrefactive decomposition, harmless absorption and a non-septic fever, which has neither pathological nor prognostic significance. The term traumatic fever applied to the morbid condition due to septic absorption, is a misnomer, and it is questionable whether or not it should be applied to the mere septic form. An open wound is essential to the development of a septic fever; but its relation to the non-septic fever is not settled, and can only be studied in connection with antiseptic fever.

Regarding the influence of agents, such as chloroform, ether, and carbolic acid in lowering the temperature and influencing the production of fever, the writer had been experimenting with rabbits, of normal temperature, 102.7. After 30 minutes of complete anæsthesia with ether the temperature fell to 101.6°; in 30 minutes more it was to 101.9°; in one hour and a half it rose to 102.5°; in two hours to 102.2°. The average temperature of the rabbits to which chloroform was given was 103.2°; in thirty minutes it went down to 101.2°; one hour back up to 101.9°; and one hour and a half to 101.7°; in two hours to 101.2°; on the first day it was 102.3°; second day to 102.4°; third to 102.3°. The fall of temperature under ether was rapid but transient, passing off almost entirely in an hour; while the fall after the use of chloroform was marked and lasted three days; in this latter the fall is greater, and the reaction slower. In studying the influence of shock in traumatism, it was aimed to do so without organic lesions. One pole of a battery applied to the mouth and the other to the rectum of rabbits, whose normal temperature was 103.2°, showed, after eighteen hours of use, no reduction of temperature. In non-compound fracture of the rabbit's leg with a normal temperature of 103°; in second, third, and fourth hours, 103.5°; sixth, 103.4°; seventh, 103.6°. The highest average temperature occurred on the seventeenth day.

On the twenty-second day there was pretty firm union. Upon ten rabbits the experiments consisted in injecting into the lumbar region; every antiseptic precaution was taken. The average temperature before the injection was 103.6°; the average temperature three hours after, 103.6°; second day, 103.4°; third, 103.2°; fourth, 103.7°; fifth, 103.6°, and eighth, 103.6° The injections produced no rise of temperature above that produced by the simple fracture; in most cases absorption of the fluid; and swelling took place without a rise of temperature; in the exceptional case abscess with septic poison and death resulted. After these careful experiments, the writer is convinced that the fever is not due to the lesion, and raises the question as to whether or not it is due to the absorption of carbolic acid. The carefully-made experiments of Edelberg, inclines him to think that the traumal fever noticed in connection with the antiseptic treatment should be attributed rather to the partly congealed and partly fluid blood than to the carbolic acid. The writer, after reviewing the question thoroughly, is confident that traumatic fever is due to blood extravasation, but thinks it can only be due to carbolic action on the wound secretion aided by the air, while the absorption of the acid product is unquestionably the first step in the development of the morbid condition.

Upon motion, the Section adjourned.

THIRD DAY.

SURGERY AND ANATOMY.—Chairman, Dr. Hunter McGuire, of Virginia; Secretary, Dr. Duncan Eve, of Tennessee. Met at Young Men's Christian Association Hall, at 3 o'clock P. M.

Dr. B. A. Watson, of Jersey City, N. J., read his paper, an abstract of which appears above.

Dr. H. F. Campbell, of Georgia, asked if the writer recognized traumatic fever in wounds not antiseptically treated.

Dr. Watson replied that he had divided them into septic and non-septic.

Dr. Campbell appreciated the fact that traumatic fever may arise independent of septic absorption. He cited as an example the introduction of a catheter. If the patient is of a highly nervous temperament, and the day is inclement, he has often noticed

a rise of temperature of an intermittent character, marked by a rise in the forenoon and a decline in the afternoon; this fever also is recurrent. He called this traumatic; others defined it urethral. He saw in such cases an intimate relation between the wound and brain through nerves of the wounded part, and must think this reflex action through the spine, in some way a factor of this fever. He has not extensively used antiseptics, but wished to call attention to his treatment of patients after operation. In his section—and he thought it applied to most malarial sections—he has noticed that quinine, after an operation, almost invariably cut short the fever. He was so much impressed with its value that he never neglects to use it after operations. Regarding its use before an operation to prevent shock, etc., as practiced by Dr. Hunter McGuire, he knew but little, but felt warranted in advising its use after an operation.

Dr. Nancrede, of Philadelphia, spoke of the use of antiseptics.

Dr. Alfred Post, of New York, called attention to the plan of Professor Markoe, and thought it superior to that practiced by Lister. After trying both plans, he preferred Markoe's.

Dr. Quimby, of Jersey City, also spoke in favor of Markoe's plan. He had seen Listerism practiced by Lister in his own hospitals, without seeing better results than Markoe's afforded.

Dr. Charles A. Leale, of New York, read an original paper on labial carbuncle or malignant pustule of the lip, giving the etiology of the malady, and showing from the writings of Billroth, Paget, Gross, Parker, and others, the extremely fatal nature of the disease, and with what solicitude they treated a patient so afflicted. Dr. Leale described the anatomical relation of the blood-vessels, nerves, lymphatics, and structures, in which carbuncle usually appears, and the *modus operandi* by which the septic or purulent matter affects the contiguous lymphatics and veins, causing metastatic adenitis, phlebites, and frequently gangrene, ending in death by asthenia or heart-clot.

Dr. C. A. Leale's method of treatment of labial carbuncle, is to examine thoroughly the extent of the subcutaneous induration by the tactus eruditus, bearing in mind the location of the arteria septi nasi, as it passes down near the border of the lip to join the

superior coronary artery avoiding each, make a free incision outwards and downwards along the course of the fibers of the obicularis oris muscle extending the cut each way in a line until all the diseased tissue has been passed, taking care not to go through the mucous membrane lining the lip, to which extent the disease rarely extends. Dr. Leale then, with a fine piece of ivory or wood, with its ends covered with cotton, thoroughly applies to all the diseased parts and cut surface, the chemically pure nitric acid; this is pressed with sufficient force into all the diseased parts, so that every little pocket of pus is reached, and the intervening membranes destroyed, which would otherwise be left to slough off and continue the septic or purulent infection.

Dr. Leale stated that by this time the nervous and constitutional systems are very much depressed, and for the relief of the fever pain, he gives morphia *pro re nata*, and to overcome the blood poisoning, whisky is given liberally, largely diluted with water.

Dr. Leale stated that on some occasions he has had to apply the acid on the second or third day, or until all the poison has been rendered inert. His subsequent treatment is by the open wound method, applying unguentum balsam Peru, lightly smeared on lint, and giving the patient the most nutritious diet and restorative tonics.

Dr. Leale claims that by this treatment all the little canals making the cut surface appear like a sieve are reached, and that the entire poisonous mass is kept within circumscribed boundaries, and the absorbed poisons by sustaining the system are eliminated. In the early part of the treatment, a full dose of sulphate of magnesia, largely diluted in water, is given. As a rule, it will be found that on the third or fourth days after the incision and the first application of the acid, all danger will have subsided and the convalescence will steadily progress.

But, in some instances, we may have acute mania from cerebral meningitis or erysipelas; the former to be treated by large hypodermic injections of morphia, and the latter, when possible, to be relieved by cooling lotions of lead and opium.

Recapitulation.—Carbuncle of the lip or malignant pustule of the lip has, by the usually recommended modes of treatment,

proved fatal in a very large proportion of cases, even in healthy, strong and vigorous adults, and is, therefore, a much dreaded malady. The cause of the failure, in Dr. Leale's opinion, is that, by the usual method of treatment, only a portion of the diseased mass is reached, and consequently the remaining imprisoned *materies morbi* cannot be eliminated, nor can any local application reach the disease.

Dr. Alfred C. Post, of New York, stated that the subject was a most important one, and was very much pleased with the paper of Dr. Leale. Dr. Post thought that when we see patients early with malignant pustule a large proportion can be saved. He usually operated by cutting through the vermillion border of the lip.

Resolved, That the President of the Surgical Section appoint a committee of three, to select six subjects for presentation and discussion, at the meeting of the Section in 1882, assigning each subject to a gentleman, who shall, by the reading of a paper, or otherwise, introduce his subject for discussion.

Correction.—Dr. Hutchison *advocated*, and did not, as was stated in yesterday's report, oppose the use of Dr. Sayre's method of treating spinal curvatures. He only mentioned its liability to cause hernia. He uses the cast frequently.

FIRST DAY.

STATE MEDICINE.—Chairman, Dr. J. T. Reeve, of Wisconsin; Secretary, Dr. R. G. Jennings, of Little Rock, Ark.

The hour of meeting having arrived, the Secretary, Dr. R. G. Jennings, of Little Rock, Ark., called the Section to order.

A letter was read from the President, Dr. J. T. Reeve, of Wisconsin, regretting his inability to attend, both on account of ill-health and imperatively pressing engagements.

On motion of Dr. John S. Billings, U. S. A., the Section was adjourned until this evening at 3 o'clock.

SECOND DAY.

STATE MEDICINE.—This Section met at Wilkinson Hall, at 3 o'clock. Dr. J. S. Billings, U. S. A., Chairman *pro tem.*; Dr. R. G. Jennings, Secretary.

Dr. J. L. Cabell, of the University of Virginia, read an interesting paper on "The National Board of Health and the International Sanitary Conference of 1881."

Dr. Cabell alluded to the illiberal action of the National Congress in reference to the National Board of Health, and spoke of the success that had attended the efforts of the New York physicians for the establishment of a State Board of Health. He also gave a history of the establishment of the National Board, and the reasons why it had not secured sanitary regulations in States which had not established State Boards; and stated the reasons which impelled the calling of an International Sanitary Conference. Dr. Cabell proceeded to give a very interesting account of the proceedings of that Conference, and the good work accomplished by it. [This Conference, it will be remembered, met at Washington the latter part of January and the first of February last.]

After dwelling for some time upon the work prepared at the Conference, Dr. Cabell concluded as follows:

"There is, therefore, good reason for hoping that an international agreement may be arrived at between the States most frequently threatened with epidemic invasions. And, aside from this, the degree of attention which, as a result of the deliberations of the Conference, has been given to the subject of maritime sanitary police, cannot be without fruit in securing greater cleanliness, better ventilation of ships sailing on the high seas; and in general, an improved sanitary condition of these important instruments of commerce, which become so often the carriers of the most deadly contagion, from the failure to use such precautions as sanitary science suggests, and, as it is hoped, will now be enforced among the maritime powers of the world."

The paper was referred to the Committee on Publication.

Dr. C. F. Folsom, of Boston, read a paper on the relation of "The State to the Insane."

Dr. Folsom spoke of the difference in the treatment of the insane, adopted at this time from that which was formerly adopted. He also gave valuable statistical information as to the number of insane in various sections of the country. He argued in favor of the establishment of State Lunacy Boards. Among

the points made were: First of all, that a lunacy board should embrace men with a thorough knowledge of insanity and its treatment. The chief duties of this board should be to secure proper care for the insane in private dwellings, where they are very much liable to neglect. Secondly, They should require the commitment of lunatics to the asylum by necessary copies of the commitment papers, and otherwise looking into the cases, so as to be able to tell whether the lunatic should be retained for care or be discharged.

The paper was in every respect an able one, and full of valuable information. Dr. Folsom was warmly congratulated, and his paper was referred to the Committee on Publication.

The paper was discussed in general commendation by Doctors Grissom, of North Carolina, and Hughes, of St. Louis.

Dr. Grissom made the point that if insanity is treated promptly, as other physical diseases are, that it is comparatively curable; but the custom is to delay action too long. One reason of this is that some people seem to think it disreputable to have an insane person in the family. When insanity is recognized as a purely physical disease and treated as such, more cures will be effected. The people must be educated to understand that to be insane is no cause for odium.

At the conclusion of these remarks, the Section adjourned until 3 o'clock, P. M.

STATE MEDICINE.—In consequence of the small attendance no meeting of this Section was held yesterday evening.

Papers on "Cellars," by Dr. A. N. Bell, of New York City, and on "The Necessity and Means of Removing Putrescible Matters from Inhabited Places," by Dr. O. W. Wright, of Milwaukee, Wisconsin, were received by the Secretary from the authors (who did not attend) and turned over to the Permanent Secretary.

FIRST DAY.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.—Chairman, Dr. D. S. Reynolds, of Kentucky; Secretary, Dr. S. M. Burnett, District of Columbia.

A paper was read by Dr. G. T. Stephens on the *Perimeter*, invented by himself for measuring the field of vision. Dr.

Stephens described the instrument closely, remarking that most of the instruments hitherto used are very large, weighing a good many pounds, and consequently inconvenient for using. His instrument removes some of the difficulties. The gentlemen present were invited to examine the instrument.

Dr. Wilson, of Philadelphia, wished to know whether Dr. Stephens' method was superior to the old plan, and whether any comparative measurements had been made. Dr. Stephens said he had discontinued the old methods, and was thoroughly convinced of its efficacy, but that no measurements had been made.

Dr. W. C. Jarvis next addressed the meeting on the subject of *Nasal Catarrh with Hypertrophy*. He remarked that the persistence of the disease is due to hypertrophy of tissue. This must be removed, and instruments are necessary to effect this result. The écraseur is the same instrument described in the *Medical Record*, April, 1881. The wire used is very fine, but exceedingly strong, and made of the best steel. The transfixion needles are provided with metal handles, and are made of various sizes. The simpler forms of hypertrophies can be removed with the écraseur alone, but sessile growths require both. Dr. Jarvis stated that all degrees of hypertrophy can be removed by means of these instruments. In one patient who had not breathed through the nose for fifteen years, and in one who had not breathed at all through the nostril, the relief was almost immediate. All kinds of nasal growths can be reached by means of the instruments, and there is no longer any use of resorting to caustics, cutting and the galvano-cautery.

Dr. Smith, of Detroit, wished to know if nasal respirations were immediate, and also how long a mechanical trouble could last without producing organic change.

Dr. Jarvis stated that he was simply stating the fact as it stood; that the patient was not completely deaf, but that he had to be spoken to in a loud tone of voice.

Dr. Jos. A. White said that he had used the instrument mentioned by Dr. Jarvis, and had obtained excellent results. In one case in which the hearing was only $\frac{2}{50}$, the result was such as to produce perfect hearing on one side, and partial hearing on the other side, where organic trouble was added.

Dr. Daly said that the instrument was a very useful one. In his experience, deafness of greater or less degree has often been relieved by removal of nasal growths, and that, too, without treating the deafness at all. If the "central trouble" or hypertrophy be remedied, the result will be good. The galvano-cautery, used for a few moments at a time, is an excellent means of removing the growth in some instances. The finger is introduced into the pharynx as a support and protection. In some cases glacial acetic acid answers well as an application to the stump after the removal of the growth with instruments. Cases under his care have been watched for years, and have progressed favorably. In one case in which sessile growths were present, these were removed with the galvano-cautery, heated to a mahogany or cherry red. The apex of the growth disappears, gradually becoming hollowed out and sound, normal structure is left. The surrounding structures are not injured.

Dr. Rigsby wished to know to what extent deafness is due to anterior nasal catarrh.

Dr. Jarvis said that the extent was undetermined, but that the pharyngeal trouble is secondary to the anterior disease. The acrid secretions of the part flow backward and irritate the healthy mucous membrane. A mild astringent injection may sometimes give rise to the pharyngeal disease, and it is highly probable that the secretions of the part diseased can act in the same way.

Dr. Rigsby said he had been struck, after a long experience, with the connection between aural and nasal diseases. Deformities in the vomer and turbinated bones produce trouble in the ear, after giving rise to hypertrophy and sometimes ulceration in the nose. Deflection of the vomer to one side is one deformity giving rise to ear disease. Operative interference is not often needed. Iodoform, with alum or acacia, is an excellent application. In other cases, where no deformity exists, the rhinoscope will reveal a group of enlarged glands. These give rise to a viscid secretion which irritates the surrounding structure.

Dr. Little, of Philadelphia, stated that we must not forget the effect upon the lachrymal canal of nasal troubles; it is an important one.

The chairman remarked that the predisposing causes are very

important, but had not been discussed. Do cases of cured catarrh stay well? and is not the local trouble secondary to constitutional causes?

Dr. Little remarked that traumatic causes must be considered. He had seen a child strike its nose and have catarrh. This occurred in a healthy person.

Dr. Jarvis then said that two causes of catarrh must be considered—a local deformity or hypertrophy, and an atonic condition of the system. A distinction should be made between temporary and permanent stenosis. Deflection of the vomer always causes catarrh. These cases get worse as the patient grows older. In some cases the bones have been crushed, but this treatment is to be condemned. The instrument exhibited by himself would, he thought, answer every purpose.

Dr. Carter said that one great cause seemed to him to be the change from the impure hot air of a room to the cold air without, and advises his patients to place a piece of cotton in the nostril on going into the open air. The oxide of mercury he has used with a great deal of benefit. The great point is the recurrence of the trouble, and it does frequently recur.

Dr. Daly thinks that a fair proportion of cases depend upon a constitutional defect, but many of those are pharyngeal catarrh. Subjects with slow and bad digestions are liable to this form. A smaller per cent. of nasal troubles are constitutional. The majority are in excellent health, and we must look upon the nasal disease as the result of repeated colds in the head. In such cases, temporary stenosis takes place; this is relieved, but a slight thickening is left, which is increased by each subsequent attack. Subsequently nervous tone is impaired and vascular action interrupted. The best way to deal with the patient is to tell him that the trouble can be cured, but that it will recur if he catches cold again. Of course he should consult a physician, in that case, and be treated again. Dr. Daly has often seen the constitution improve after local relief.

Dr. Stephens said that the gentleman was mistaken, he thought, if the majority of these cases was referred to local causes; certain people are predisposed to colds and catarrh. Why is it? We must try to find out. Reflex irritation, as for

instance, uterine disease may predispose to catarrh. An accumulation of cerumen in the ear, or diseases of the eye, can produce the same result. All such causes should be removed.

Dr. Chisholm then read a paper on the Treatment of Conical Cornea. He said that it is a pertinent question how to get the projection back. Suggestions had been made of cutting out a piece of the cornea and bringing the surfaces together. After reading a French article on puncture of the cornea with a needle heated to redness, he determined to put it into practice. A case of exophthalmic goitre with a complication of eye troubles was selected; objects could not be distinguished one foot off. No anæsthetic was given and the needle was thrust suddenly through the cornea. The anterior chamber was immediately emptied; no pain was felt; and atropia and cold water were used. There was no inflammatory action. As soon as the eyes were opened the patient read at six feet. The same operation was used on the right eye, and eight months afterward the cornea was perceptibly flattened—sufficiently so as to admit of an iridectomy.

Dr. Little said that he had assisted Dr. Noyes, of New York, in a case of conical cornea, where tapping was resorted to. The result was highly satisfactory.

SECOND DAY.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.—Chairman, Dr. D. S. Reynolds, of Kentucky; Secretary, Dr. S. M. Burnett, District of Columbia, met at Wilkinson's Hall, at 3 o'clock P. M.

The Section was called to order by the Chairman, and the minutes of the previous meeting were read by the Secretary.

The first paper read was upon the subject of Syphilitic Laryngitis, by Dr. Carl Seiler, of Philadelphia, in which he stated that the affection could be diagnosed from non-specific inflammation by the peculiar discoloration of the mucous membrane and the symmetrical disposition of the inflammatory patches. There are frequent ulcerations of the larynx, which may be divided into shallow ulcers, in nothing differing from those seen in catarrhal laryngitis, and deep ulcerations, which were, in the author's opinion, due to the breaking down of the smaller or larger gum-

mata in the mucous membrane. He also stated that a diagnostic sign of syphilitic laryngitis was seen in the red lines observed upon the velum palati. He recommended as treatment, beside the systemic, with iodide of potassium and mercury, and supportive, with tonics, etc., local touching of the shallow ulcers with solid nitrate of silver fused upon an aluminum probe, and the deep ulceration with acid nitrate of mercury (1 to 4), or the galvanic cautery.

The subject being open for discussion, Dr. Reynolds said that he thought constitutional treatment would do more good than any local measures. He was surprised at the statement of Dr. Seiler, that the diagnosis of simple form of syphilitic laryngitis was difficult. He did not believe that catarrhal inflammation could produce ulceration. There were three kinds of syphilitic ulcers, viz.:

1. The ulcer with inflamed base and everted edges.

2. Pale or gray base with irregular margin and sharply defined scarlet areola.

3. Ulcer wholly unaccompanied with any evidences of inflammation with sharply defined outlines and gummatous deposits surrounding the margin.

He thought that local applications could give no good results, unless restricted to such remedies as would give relief from pain. While not doubting the correctness of Dr. Seiler's observations, he differed with him in his diagnosis.

Dr. Stephens, of Hartford, thought the treatment much more satisfactory when both local and constitutional remedies were employed. He used nitrate of mercury (1-4) locally, with the internal administration of potass. iodide.

Dr. Walsh said that he thought too much prominence was given to the iodide of potassium. He held the opinion that the shallow ulcer corresponded in its time of appearance with the mucous patch of syphilis, and the deeper ulceration with the tertiary stage. He always found enlargement of the cervical glands in specific laryngitis. He employed mercury internally, especially in the shallow ulceration, and iodide of potassium in the deeper forms. He thought Dr. Reynolds wrong in neglecting local medication, the combination of the local and constitutional treatment giving better results. Of the modes of administering

mercury, he preferred inunction. Treatment should be supporting. Dr. Seiler closed the discussion, saying he thought catarrhal inflammation could produce ulceration. The infiltration of the sub-mucous tissue could break down and produce ulceration. In his paper he had taken it for granted that any physician would employ constitutional treatment in this disease. He claimed that local treatment lessened the amount of cicatricial contraction in the process of cure. The application of caustic served to coat over the ulcer and protect it. He claimed that there was involvement of the cervical glands often in non-specific laryngitis, while it was not a constant symptom in the specific form. He based his diagnosis mainly upon the carmine color of the mucous membrane and the symmetrical arrangement of the ulcers. If there was an ulcer upon one side of the larynx, there would be found a corresponding ulcer or focus of inflammation on the other side. He attached much importance to the red lines upon the velum palati, which were sometimes brought out by the irritation of such an examination.

Dr. Chisholm read a paper on a form of tinnitus induced by a rhythmical contraction of the tensor tympani muscle, which was first brought to his notice by a muscular twitching in his own left ear. It occurred during the heat of summer, and invariably commenced after dinner. The twitching at first was not of more than half an hour's duration. It did not affect the hearing. The next day after dinner the buzzing sound was resumed. This followed for four days in succession. The duration of the buzzing now was gradually increased, until the last recurrence. The noise continued until lost at bed-time in sleep. Inflation of air, chloroform vapor, electricity, both Faradic and continuous, did not in any way control the buzzing sound. The fluttering was felt at the drum head, and analyzed as a rhythmical contraction of the tensor tympani muscle. The contraction and relaxation varied at times from 130 to 160 to the minute. The cause was ultimately found to be a glass of wine taken at dinner, in connection with the very hot weather. Omission of the wine stopped the noise, and its resumption at dinner renewed it. Other cases of a similar nature have come under the observation of Dr. Chisholm. The muscular twitching was similar to the twitchings

so often experienced in the muscular fibers of the eye-lid, and which may be kept up for minutes, hours, or even days. There was no diminution of the hearing power, even while the noisy muscular contraction was greatest.

Dr. Burnett had noted in his own case that when he made a strong contraction of his orbicularis muscle there was a peculiar sound in the ear of the same side. He at first thought it was the sound of muscular contraction conveyed through the bones of the head, but this was disproved by the fact that he could only produce the sound at certain times. He could always do it in the morning. He attributed it to contraction of the tensor tympani muscle.

Dr. Stephens had a patient suffering with tinnitus, who came to this country for change of climate, but received no benefit from it. He used the ordinary treatment without success. Hydrobromic acid, which usually gave good results, did no good in this case.

Dr. Eugene Smith, of Detroit, read a paper describing a successful operation for blepheroplasty, in which the graft was taken from the arm without any pedicle. A piece of skin, one and a half by two inches, was taken from the arm, and the cellular tissue and a portion of the true skin shaved off. This was then applied to the cut surfaces of the lid, being about one-fourth larger than the wound. The case progressed to a very successful termination, the motions of opening and closing the eye being perfect. Dr. S. exhibited photographs of the patient before and after the operation. There had been no contraction of the lid for several months. The operation was performed in October last.

Dr. H. Augustus Wilson, of Philadelphia, reported a case operated upon by Dr. Levis, in which the graft progressed well for two weeks, and then sloughed, leaving the condition as bad as before operation. The skin of an amputated little finger was used in this case, but the cellular tissue was not removed. He attributed the failure to this fact.

Dr. Burnett mentioned a case where the contraction afterwards was continuous, until it did away with all the good results of

the operation. He thought this was the most frequent cause of failure.

Dr. Smith said he was thus particular in describing the operation, because he had twice before failed in the same. He attached much importance to shaving away all of the cellular tissue and a portion of the cutis vera, thus bringing the dermic cells in direct contact with the cut surface. He thought failure was generally due to want of care in preparation of the graft. Flap should always be one-fourth to one-half larger than the surface to be covered.

Dr. Reynolds described a similar operation performed by him in 1862. First graft came away in the night, causing severe hæmorrhage. The second was successful, and the patient, a practicing physician, is now doing well.

Dr. Wilson, of Philadelphia, exhibited to the Section a lot of compressed hypodermic pellets, introduced to the profession by him some years ago. They were originally intended for solution for hypodermic use, to prevent keeping solutions for this purpose. He was in the habit of using one containing $\frac{1}{100}$ grain of atropia and $\frac{1}{4}$ grain sulphate sodium for relaxing the accommodation. He simply placed it in the conjunctival sac of the lower lid, and it was absorbed in about two minutes. It would relax the accommodation in an hour. One application was usually sufficient.

Dr. Risley, of Philadelphia, could not understand how so smal an amount could produce paralysis of accommodation in so short a time.

A long discussion was here indulged in, as to the amount of atropia necessary, and how often it should be repeated, to produce the required relaxation, and the means used to test the loss of accommodational power. Many and different views were set forth by as many gentlemen ; and with this discussion the meeting of the Section closed.

Just before adjournment, a paper by Dr. Lawrence Turnbull, of Philadelphia, entitled, (1) Otitis Intermittens, with Observations upon the use of Quinine in Diseases of the Ear ; (2) On the importance of Ear Examinations in effecting Life Insurance, was, on motion, read by title, and referred to the Committee on Publications.

Section then adjourned to next day, (5th) at 3 o'clock, P. M.

THIRD DAY.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.—Chairman, Dr. D. S. Reynolds, of Kentucky; Secretary, Dr. S. M. Burnett, District of Columbia, met at Wilkinson's Hall, at 3 o'clock P. M.

Most of the afternoon was spent in executive session, transacting business which pertained to the good of the Section.

At the close of the business session, a long discussion upon the subject of Astigmatism was indulged in—remarks being made by Drs. Reynolds, Risby, Burnett, Scott and Daly.

These gentlemen all spoke freely upon the subject, dwelling especially upon the means of testing this error of vision, and the application of suitable glasses.

A paper of Dr. Reynolds, upon the Treatment of Nasal Polypi, was, on motion, read by title, and referred to the Committee on Publication.

At 5 P. M. the Section adjourned.

FIRST DAY.

DISEASES OF CHILDREN.—Chairman, Dr. A. Jacobi, of New York; Secretary, Dr. T. M. Rotch, of Boston, Mass.

The following is an abstract of the paper of Dr. H. I. Bowditch, of Boston, entitled "*The Relation between Growth and Disease.*"

After discussing the various influences which must be taken into consideration in approaching this important subject, such as climate, race, social condition, occupation, and sex, Dr. Bowditch directed the attention of the medical profession to carrying out more extended observations on this subject, especially in the West, where the emigrant class, coming from different countries, present especial advantages for this kind of investigation. He also spoke of the intention of the Massachusetts State Board of Health, Lunacy and Charity, to distribute blank cards and circulars of instruction to aid in this work, and it is probable that the National Board of Health will soon undertake a similar work on a larger scale. Dr. Bowditch said that it seemed probable that the accurate determination of the normal rate of growth in children will not only throw light upon the nature of the diseases

to which childhood is subject, but will also guide us in the application of therapeutic measures. The statistics of growth, taken in connection with those of disease, might very possibly reveal unexpected relations between periods of slow and rapid growth, and the ages at which certain diseases most frequently occur.

He referred to Dr. Percy Boulton's expression of "danger signal" in his paper on the weighing of children. Dr. Bowditch then exhibited a chart representing the case of a child, between two and three years old, where careful and systematic weekly weighing showed, first, the approach, by some weeks, of a chronic disturbance of nutrition, represented by enlarged cervical glands and clay-colored stools; and second, after recovery, the approach of an attack of measles, the "danger signal" of progressive loss of weight preceding the eruption by at least a week.

Dr. Billings spoke of the value of Dr. Bowditch's paper, and presented to the Section the statistical cards intended for circulation by the National Board of Health.

Dr. Lee, of Baltimore, remarked that he had paid especial attention to this subject, and that he had noticed that a female child could lose more in proportion to its weight, without detriment to its health, than the male child of the same age. He also said that if the loss of weight preceding the eruptive disease was excessive, the case was so much more grave in its prognosis, and that this loss of weight preceded this eruption by from four to five days.

Dr. Busey, of Washington, read a paper entitled "The Relation of Meteorological Conditions to the Diarrhœal Diseases of Children."

Dr. White, of Boston, presented a paper entitled "Some of the Causes of Infantile Eczema, and the Importance of Mechanical Restraint in its Treatment."

He first described the many and varied external influences which immediately affect the delicate skin of the new-born, as being a common cause of eczema, and laid especial stress on the fact that heat was the more usual cause of the disease than cold. He said, however, that these external influences furnish but a small proportion of all the cases of the disease which occurred at this period of life, although by far the greater part of those

concerning the etiology of which we have any positive knowledge. During the last twelve years he had treated at the Massachusetts General Hospital 5,000 cases of eczema, of which 1,770 occurred in children of ten years of age and under, and of which the largest proportion, viz: 569 cases, was in the first year of life. He said, eliminating the operation of the causes directly acting upon the skin from without, above mentioned, and a few other extraneous agencies, the parasitic chiefly, that he did not hesitate to say that he knew nothing whatever of the causes of the disease in the remainder; also, that as far as his experience went, eczema affected all classes of society alike, occurred at all seasons of the year, came in children of all degrees of health, in the perfectly sound as frequently as in the feeble; that it had no necessary connection with any other disease of childhood; that it showed itself in an equal proportion in bottle babies and those reared at the breast, and was independent of diet; also, that if there were other assigned causes, he would here say that his observation gave him no justification for believing any of them.

He stated that there was no more necessity for a supposed sympathy with or dependence upon the state of the blood, or the condition of some other organ, when the skin is affected with eczema, than when the lung, kidney, etc., is affected. He then, after speaking of the extreme suffering which the little patients undergo, said that the prime factor of the treatment was the prevention of scratching, and he described what he considered to be the proper method of controlling the child's movements, viz: a system of swathing in a pillow-case, by which the same chances of success in the therapeutics of infantile eczema is given, as exist in the adult.

He finally said that when the strait-jacket treatment is carried out, the child soon becomes used to the confinement, and a wonderful improvement takes place, not only in the disease itself, but in the morale of the family, which always becomes painfully disorganized during the existence of the disease; and he mentioned, as an important factor in the success of the treatment, that a grandmother (if present), in every case of infantile eczema, is the first evil to be eliminated. In conclusion, he considered that the simple mechanical means found in every household included all

that was important in the treatment of one of the most distressing and rebellious diseases of infancy.

Dr. L. Duncan Bulkley regretted criticising the paper, as he felt obliged to do, in the absence of his friend Dr. White, but the views presented differed so radically from those which he had formed from experience that he could not help so doing, because he felt that the subject demanded it. For those who did not know of his acquaintance with the disease, he would state that he had recently made analyses of 2,500 personal cases of eczema, and of these nearly 700 had occurred at an age which classed them as infantile eczema: he therefore believed that he could speak with authority on the subject. Dr. White had, it is true, treated of only one feature in the management of the disease, namely, physical restraint, but he believed criticism to be called for because of the principles which underlie, or which call for this element of treatment; the premises being wrong, what follows must of necessity be wrong.

The speaker believed that Dr. White here, as elsewhere, laid far too great stress upon local causes of eczema, and ignored entirely the influence of internal, general, dietary, and hygienic causes; if these are not recognized and managed, the results of local treatment are imperfect and uncertain. He did not believe that the children with infantile eczema were really in perfect health, but that always the evidences of imperfect assimilation, could be discovered: the evacuations from the bowels were faulty, the urine constantly presented evidences of mal-assimilation, and searching investigation would always demonstrate imperfect health in the child. In nursing children, the mother should always receive very careful attention, as very commonly she would exhibit dyspepsia, or constipation, or perhaps is taking ale, beer, much tea, etc., which disagree and cause trouble in the child; or perhaps she was very much debilitated, etc.

This subject could not be fully entered into here; the speaker expected to read a paper, on "Diet and Hygiene of Eczema," before another Section at the present meeting. He was, however, absolutely convinced of the importance of this matter, and that if attention was thoroughly paid to it much less would be required

locally, and what was used would be more rapidly and completely successful.

Internal treatment to a certain degree was also absolutely necessary. And without it, physical restraint, as any local treatment, would be comparatively ineffective. This could not be discussed here, but he would only mention in illustration the internal use of small purgative doses of calomel, every other day, and a mild alkali, as acetate of potassa in the liquor ammoniæ acetatis, with a little nitre and perhaps aconite. Individual cases required very different management.

In regard to the method of restraint proposed in the paper, he would say that he had never employed such restraint, simply because he had never found it necessary. If the itching is relieved, the restraint is not required, because the habit of scratching is soon overcome when the infant finds that a proper application gives relief. If the itching is not relieved, such confinement is torture beyond any description, judging from the statement of older patients, who cannot abstain from it by any force of will, and who assert that they would scratch even if they died from it. The agony of little ones mechanically restrained is fearful to see.

In the paper the writer had mentioned the use of diachylon ointment. This the speaker very rarely employed in infantile eczema, as he believed it very inefficient in arresting itching. Tar in some form was far more efficacious; indeed, the speaker said that he had little to desire in the way of an application to infantile eczema beyond the following ointment. Recipe: Unguenti picis, one ounce; zinc oxid., two drachms; unguenti aquæ rosæ, three ounces. Mix. This should be very carefully prepared and very thoroughly and abundantly applied. If it appears stimulating, less of the tar ointment may be used. He laid great stress upon employing the rose ointment and not simple cerate, or lard, or vaseline or petroleum. The ointment should be made of a consistency to spread easily and yet not to all melt away after application.

The writer had spoken of removing the restraining bands in order to wash the surface. The speaker was very positive in the directions given in regard to the use of water to eczematous surfaces in children: they were only to be washed according to direction,

and that very rarely, often only at intervals of several days; moreover, it was all-important that the protective ointment should be replaced *immediately* after the surface is dried, and renewed sufficiently often to keep the parts completely protected, even twenty or more times the first day. On covered parts the ointment may be thickly spread on the woolly side of sheet lint and bound on. Among the hundreds of cases the speaker had never covered the face with a mask, and had rarely been obliged to restrain the infant much after the first day or so. The only restraint he had ever practiced was putting on muslin mittens, tied around the waist, and then tapes from these passed behind the back or beneath one leg. He had never employed a mask.

Under the management thus briefly indicated, if every point could be carried out, there was but one result, arrest of the eruption, and if dietary and hygienic elements were persisted in, a cure of the disease. The attention to the mothers of nursing children he considered most important.

Dr. Ulrich, of Pennsylvania, in discussing the paper, said that he fully agreed with Dr. Bulkley, and that he entirely opposed Dr. White's treatment. In a long professional career he had never used a system of restraint in these cases, and that he would prefer to knock the little patient on the head at once rather than submit it to the torture's of Dr. White's strait-jacket.

Dr. H. O. Marcy exhibited to the Section some elastic double canular injection tubes which he thought useful in various diseases. The tubes presented were of different sizes to be used in inflammatory conditions of the uterus, bladder, rectum and bowels. They are not costly, easy to carry and very serviceable. Dr. Gouley, of New York, asked Dr. Marcy if he claimed this a new device; Dr. Marcy replied that they were new to him. Dr. Gouley had used certainly the catheter years ago, and protested against the introduction of so many so-called new and valuable instruments; thought the next era would be time enough for more, and could not appreciate its great use in bladder troubles. Dr. Marcy thought there must be virtue in hot water in diseases of the bladder as in diseases of the uterus. The stomach tube he feels much easier to introduce. Dr. Wm. A. Byrd, of Quincy, Ill., thought the stomach tube very valuable. When called to

see a child with convulsions from indigestion, introduces stomach tube, and with water washes out the stomach.

Dr. Wm. A. Byrd, of Quincy, Ill., presented a specimen of ulceration and perforation.

The following is an abstract of the paper by Dr. D. H. Goodwillie, of New York city, on Thumb-sucking, illustrated by the report of a case and exhibited by a wax model.

Treatment consisted in breaking up the habit by applying a leather pad to the elbow, preventing the hand from coming to the mouth.

Nasal Catarrh by douches and the application of powder blown into the nose, proper food, clothing and rest.

His conclusions were as follows:

(1.) Thumb-sucking is more disastrous to the health of the child than the sucking of the other fingers, for the thumb, once in the mouth, it more readily remains during sleep.

(2.) It interferes with the child's proper rest, which should be continuous and undisturbed, and so becomes a source of nervous irritation and exhaustion.

(3.) It interferes with the natural respiration through the nose, and sets up abnormal conditions.

(4.) It malforms the anterior part of the mouth, and effects proper mastication.

At the conclusion of the reading of this paper, the Section adjourned until 3 o'clock, P. M.

SECOND DAY.

DISEASES OF CHILDREN.—Chairman, Dr. A. Jacobi, of New York; Secretary, Dr. T. M. Rotch, of Boston, Mass.

Dr. Jacobi spoke of the discussion on *Eczema* which had occurred at the last meeting, and remarked that he supported Dr. White, of Boston, in controlling scratching by mechanical measures. He said that if scratching was prevented, children would recover as easily as adults, and that although the procedure was somewhat severe, still the mother and nurse would be saved a great deal of trouble. The mask for the head had proved very serviceable in his hands. As regards Dr. Bulkley's views, he thought that the constitutional causes were nothing more than we

have in any affection. Dr. Jacobi agrees with Hebra that no water should be used. Very rarely, and in special cases, the judicious use of water may be of service. The main point is to remove the scabs. For this purpose potassa soap, very soft, may be used; or liquor of caustic potassa, with ten or twelve parts of olive or castor oil, can be applied twice, three, four, or five times during the day, and will produce remedial effects very quickly. The surface left exudes the serum, which hardens and forms the scab. This serum must be touched and taken up with a soft towel, and finally astringents are applied to the raw surface. These applications can be made to please the fancy of the physician. Zinc and diachylon plaster are both valuable. A number of cases will not be cured, and then we must resort to constitutional treatment. The milk of the nurse must be rendered digestible, and it will be found that many children will thrive better on artificial food than on the milk of the mother or nurse. A good general condition of the system must be obtained. To say that an eczema can be cured forever, is perhaps going too far, for we see cases repeatedly coming under our observation as cured. Just as in insane asylums we notice cases that are published several times as "cured," so it may be in eczema or any other intractable affection.

Dr. Jacobi, in the absence of Dr. R. J. Nunn, of Savannah, read a paper for him on the *Treatment of Diphtheria*. Dr. Nunn approached the subject with timidity. The disease had raged in Savannah with very fatal effects, and a letter from a friend elsewhere said that, after treating 600 or 700 cases, his faith in the efficacy of drugs was very feeble. The causes will probably remain speculative for a long time. Is the disease the same always and everywhere? The causative influences are probably not the same in all cases. Medicines which cure the disease in Germany fail in this country, and the discussions as to the identity of croup, diphtheria and scarlet fever are strong arguments in favor of this belief, and all treatment based upon one cause must fail to relieve all cases. Dr. Nunn quoted Dr. Jacobi as saying: "The entrance of the diphtheritic poison into the system is not the same in all cases." . . "There are cases in which the origin of the disease is decidedly local." . . "There are others in which the

poisoning of the blood through inhalation is the first step in the development of the disease." A powder used by Dr. J. B. Read is as follows: Sulphur sub., grs. xlviij; acid tannic, grs. xij; acid salicylic, grs. i; pulv. potass. chlor., grs. xij. Precaution must be used in compounding this prescription. A little of this powder is put on the back of the tongue every hour or two, and a small piece of ice given afterward. It will be seen that this prescription is a combination of antiseptics principally.

In another case treated by Dr. Nunn, the following formula was used with good effect: Sulphur, grs. vij; acid boric, grs. iv; acid tannic, grs. j; acid salicylic, grs. j; resorcin, grs. j. Another formula is: Sulphur sub., grs. viij; acid boric, grs. iv; acid benzoic, grs. j; acid salicylic, grs. j; acid tannic, grs. j; acid tartaric, grs. iv; sodii chlorid, grs. iv; resorcin, grs. j.

Dr. Nunn thinks that this formula will prove efficacious.

Dr. Lathrop, of New Hampshire, has experimented with chloroform largely, and finds it a highly useful agent. He uses it in diphtheria and other throat affections on a piece of cotton attached to a tube or pen-holder. The cases usually required visiting no longer than four days, but the cases were not so malignant as had been reported in other localities.

Dr. Lathrop stated that no unpleasant effects have ever followed this plan of treatment, and that the child, in true diphtheria, would not complain of *smarting* from the application of chloroform.

To a question from Dr. Jacobi, Dr. Lathrop said that he had used this plan of treatment in one hundred cases. Of ccurse, constitutional measures are added.

Dr. William Lee, of Baltimore, has used equal parts of tinct. ferri chlorid. and ol. ricini with benefit. He considers the disease as local at first, and then constitutional. A physician from his county had used large doses of ol. copaibæ with benefit. An emetic was then given to remove the membrane

Dr. G. Vivian, of Minnesota, has used, in severe epidemics, alcohol as an inhalation. and has employed as much as a quart of alcohol a day. He has never seen any constitutional effects ensue.

Dr. J. McNeal, of Gettysburg, Pa., recommends the follow-

ing: Potass. bromid., ℥i, potass. chlorat., ℥iij, acid carbolic, grs. xx, aq. ℈i. Use in an inhaler. Locally, chloroform ℥ij. lin, saponis ℥i—℥ij.

Dr. F. E. Hitchcock, of Rockland, Maine, uses equal parts of sulphurous acid and water in an atomizer. The proportions can be varied, and the acid used as a gargle. Cold affusion externally.

Dr. Jacobi, in answer to an inquiry concerning the benefit of pilocarpin, said that his opinion of it was unfavorable. It was proposed as a specific by a Dr. Guttman; and while on this subject he would state that this gentleman was not Dr. Guttman, of Berlin. The article on pilocarpin had struck him as nothing more than an advertising arrangement. In diphtheria there are two forms—one in which the deposit can be readily separated from the mucous surface beneath, and one in which the deposit is deeply embedded in the lower structures. In the latter form Dr. Jacobi believes that pilocarpin does harm, and in one case he thinks that death was hastened by using this drug. Pilocarpin debilitates the heart's action by giving rise to nausea and vomiting. The milder cases of diphtheria recover, as a rule, if left alone, and in all cases of the disease he thinks the utility of pilocarpin doubtful. The paper in which pilocarpin was recommended as a specific is not satisfactory as regards the description of the cases treated, and to say that this and that remedy is a specific is certainly not dignified. If the remedy be used at all, a fluid extract is the best preparation, as the muriate of pilocarpin is decomposed in the stomach.

Dr. Jacobi, also, in answer to a question from Dr. Lee, concerning the effect of lime, said that his opinion of this agent was not so high as that of many writers, but that he would speak more fully of both lime and pilocarpin in his article on this subject.

Dr. E. H. Bradford presented a paper entitled "Re-section of the Tarsus in Severe Cases of Club-Foot," of which the following is a summary:

Dr. Bradford first reviewed the literature of the subject, and then reported two cases on which he had operated.

The first case was a girl, 11 years old, with severe equino-

varus, the axes of the foot being at right angles with that of the leg.

Tenotomy and mechanical treatment were tried for a month with but slight benefit. Dr. Bradford removed a wedge-shaped section of bone from the tarsus with a metacarpal saw, and, with antiseptic precautions, there were no constitutional symptoms after the operation, excepting that the temperature rose once to 101°, being otherwise normal during the recovery. The wound healed under the blood-clot, as occurs with a thorough antiseptic dressing, and in five weeks the patient was able to walk without a cane.

She remained in the hospital for some time under observation, and was discharged with the foot nearly in a normal position.

The second case was a boy, 13 years old, with double congenital club-foot of aggravated type. This first foot was operated on November 9, and was sufficiently well to bear his weight by December 12, and was entirely healed by January 19. The second operation was performed January 9, and by February 4 he was allowed to walk on both feet. He remained under observation until April 2, when he could walk a mile without apparatus, and wearing ordinary shoes. The temperature rose to 102° on the second day of the first operation, but fell to the normal on the next day, and remained so. After the second operation, on the third day the temperature rose to 104°, but fell after removing the drainage tube, which was stopped, and there was no subsequent rise. The plaster of Paris bandage was made use of after the operation.

Dr. Bradford then described minutely the after treatment in this case, and stated that there remained, after recovery, about 30° of motion, and that the boy could stand on either foot, or raise himself on his toes.

In regard to the antiseptic precautions, Dr. Bradford thought that they offered the best safeguard, and that it must be admitted that a study of the reported cases justifies the impression that the danger is not so great as has been supposed.

The temperature charts, the photograph, a tracing of the left

foot, and a cast of the right foot before and after operation, of the second case, were exhibited.

Dr. Jacobi remarked that Dr. Bradford's cases were exceedingly interesting and instructive, and that, as shown by the casts, they could not have been successfully treated without just such a procedure as Dr. Bradford had adopted.

The meeting was then adjourned, to meet again at the regular hour.

THIRD DAY.

DISEASES OF CHILDREN.—Dr. Blake presented a paper entitled "Middle-Ear Disease in Children in the Course of the Acute Exanthemata."

Dr. Blake first spoke of the frequency of the disease, as shown by the facts that 35.70 of all the cases of purulent inflammation of the middle ear occurring at the Massachusetts Charitable Eye and Ear Infirmary followed measles and scarlet fever, and of deaf mutes examined by the writer, 27.70 lost their hearing as the result of scarlet fever.

In both exanthemata the inflammation affects the mucous membrane, lining the middle ear; occurs during the acute stages of the primary disease, and runs its course quickly; hence its importance to those having to deal with diseases of children.

Dr. Blake then said that much might be done in the early stages to diminish the severity and shorten the duration of the inflammatory process, which, in children, owing to the greater vascularity of the mucous membrane, and the readier solution of continuity of the tissues, favoring ulceration, is usually more rapid than in adults.

In scarlet fever the aural complication may occur at any time; usually runs its course rapidly, and furnishes in a short time a well-marked acute purulent inflammation of the middle ear.

In measles there are two types, occurring early and corresponding to the acute catarrhal inflammations, following "head-colds," the other originating primarily in the membrana tympani, and accompanying the appearance of the facial eruption. The symptoms in that form occurring during scarlet fever, are—rise in temperature, pain at first occasionally, then constant, in very

young children, shown by moaning, unrest, and a desire to press the affected ear against the pillow. These symptoms are of course due to increased pressure within the tympanic cavity from serous exudation, as is shown by the relief afforded by the use of the Politzer and douche, permitting the escape of a part of the fluid. The continuous pain later is often not similarly relieved, either because of serous effusion of the membrane itself, or more complete closure of the Eustachian tube.

Nature usually relieves the pressure by a spontaneous opening, but only after prolonged suffering and prostration on the part of the patient, or possibly serious injury to the transmitting structure of the middle ear. The opiate treatment is superficial. In the early stages, frequent gargling, and if pain is complained of, the air douche should be used frequently. Instillations of warm oils and poultices are objectionable, as they interfere with subsequent operative interference; if necessary, glycerine and warm water, two or three parts to one, and a dry cloth over the ear are better.

In a later stage, if pus is present, the evident remedy is puncture of the membrane at its most prominent portion with a lance, suture needle, or saddler's needle.

Dr. Blake then spoke of measles. In the first form, the remedies referred to in the early stages of scarlet fever are equally applicable here; if they fail, acupuncture and drainage are preferable to paracentesis, which may be done with a needle, and then a wick inserted, which serves the double purpose of withdrawing the serous fluid, and keeping the lining of the canal dry. Syringing should only be resorted to when the discharge becomes muco-purulent.

The second rare form is characterized primarily by a congestion of the membrana tympani, without congestion of the tympanic mucous membrane, and is not relieved by the use of the air douche. It is due probably to inhibition of the vasomotor nerves controlling the tympanic branch of the carotid artery.

These cases either resolve spontaneously, or the conditions described in the first type of inflammation of the middle ear becomes established. Instillation, dry warmth and acupuncture, may be resorted to with good effect. For general treatment the bromides are especially indicated.

Dr. Jacobi remarked that closing the mouths of infants and children, and simply blowing into the nose, is often a very valuable method of relieving severe earache, and that in a number of cases he had obtained most excellent results from this procedure, the cause of the trouble probably being a catarrhal affection of the Eustachian tube.

Dr. Jacobi remarked that his paper should have been read before the general session, but that on account of the crowding of business on the last day, he would read the paper to the section.

Dr. Jacobi said that the Children's Section was a new one, that he was anxious to see it a prosperous and interesting one, and that the sympathy and co-operation of the gentlemen were necessary to its success.

"The limited time at my disposal precludes my going over much ground. The remarks I shall make will, therefore, be confined to the progress made in our knowledge of the acute contagious constitutional diseases (rubeola, scarlatina, variola, and typhoid fever), and the acute contagious infections of the mucous membranes, such as dysentery and diphtheria."

The literature of the subject during the past year was described, embracing text-books, atlases and monographs, which were exhibited before the Section.

The concluding words of Dr. Jacobi on rubeola are as follows: "Evidently the latest contributions to our knowledge of rubeola give weight to its classification among the acute contagious constitutional affections." * * "The description of the symptoms varies a good deal with the authors. These differences are best explained by the fact that mild cases of either measles or scarlatina may not present all their usual symptoms, and by the other fact that during the prevalence of an epidemic of rubeola there is, as a rule, a contemporaneous epidemic of measles and scarlatina, and also diphtheria."

In such times cases of common nasal, pharyngeal, and laryngo-tracheal catarrh are very frequent indeed; thus there have been but very few infants and children in our large northern cities but were affected in this manner. Thus it happens that there are many symptoms belonging to the mucous membrane of the digestive and respiratory tract which invariably complicate

the slightest other affections. Thus it is, also, that many authors have looked upon these accidental complications as if they were genuine symptoms. The very best authors—for instance, Gerhardt—when they mean to describe roseola, depict mild or sometimes even severe cases of measles. Nasal catarrh, conjunctivitis, facial œdema, glandular swellings, belong to this class of symptoms, which, while they often occur in rubeola, do not belong to it by any means. The disease is very contagious. Its incubation lasts from two to three weeks, and is not attended with any fever. Now and then there are, during a period of from twelve hours to two or three days, prodromata, a mild increase of temperature, sometimes a catarrh of the mouth. The tongue is apt to show a few red marks along the margin, mainly in its anterior portion. The eruption, according to what I have seen, does not—contrary to Gerhardt's observations—begin in the face, but on the trunk, or more frequently on the extremities, mostly, on the thighs and knees. Head and feet are not often affected. It looks very much like that of measles, sometimes not rising above the level of the skin, sometimes, however, rising above it in the manner of an urticaria. It seldom lasts longer than three days, but relapses on the fourth or fifth day are frequent. Desquamation begins early, now and then on the third or fourth day. Relapses may take place while desquamation is undisturbed in some localities. The temperature seldom exceeds 102° or 103°; it becomes normal about the fourth day. The prognosis is absolutely good, and the treatment either none at all, or expectant. The diagnosis, however, may be very difficult, and even impossible in an individual case, inasmuch as scarlatina, and particularly measles, are apt to be rife at the very periods of the rubeola epidemic, and their symptoms are complications too mild to be estimated at their full value. This fact, however, does not militate against the independent nature of rubeola, for it has never claimed that either measles or scarlatina can and must be recognized in every instance."

Speaking of *diphtheria*, Dr. Jacobi said: "In this connection I desire to say a final word in regard to large doses of chlorate of potassium, often recommended in diphtheria. My warnings in regard to this drug have at last been heeded. Extracts from my

writings on this subject have been extensively published, and experiments on animals made in Europe by Marchaud and others have proved my clinical observation of the frequent occurrence of nephritis, and fatal nephritis, resulting from the incautious use of the potassium chlorate. A number of fatal cases have been described, and it may be that much carelessness on the part of the public and many accidents will be avoided in future."

In the article on *typhoid fever* the same writer says: "With reference to the effect of the bathing in typhoid fever he appears to have made the same observations detailed by myself some years ago in a lecture on typhoid fever published in the *Medical Record* of 1879. Whenever circulation is deficient, particularly when the patients have been anæmic at the onset of the disease; whenever, after the cool bathing, the feet do not get warm as quickly as the rest of the body, the end for which the bath was given is not attained. In order to reduce the temperature of the body permanently it is necessary that the circulation of the skin be restored very soon, and uniformly. If such be not the case no radiation from the external surface of the body can take place, and an undue amount of heat is retained within the body. It may then occur that the surface is quite cool while the temperature in the rectum is very high. In such cases, in order to reduce the temperature, I have had to plunge the patient into hot water for the purpose of restoring the cutaneous circulation. When, in such patients, cold water is to be used, the only proper mode of applying it is by packing or sponging. In these cases care must be taken that only the trunk, beside the head, is made the subject of local treatment."

In the recurrent cases to which he referred, Dr. Rotch said that reliance was not placed on the eruption alone, but on the general course of the disease, namely, a regular prodromal stage with coryza, conjunctivitis, and bronchial catarrh, followed by a characteristic eruption and a stage of desquamation, and that as these cases had been met with and reported by competent observers, there was no more reason why they should not be called a second attack of measles than when the same symptoms occurred in a patient for the first time.

Dr. Atkinson, of Baltimore, said he had undoubtedly seen numerous cases of recurrent measles.

Dr. Stiles, of New York, had seen cases where true measles had attacked the same children twice.

Dr. McDonald considered that the cases spoken of by Dr. Stiles were merely relapses of the original disease.

Dr. Jacobi agreed with Dr. Rotch that the term rubeola should be used for this disease, which simulates measles, roseola being different, as in typhoid fever.

He then said that he had frequently seen cases where what he considered the symptoms of true measles had occurred, and an exact recurrence of these symptoms years afterwards, and that he called the second attack true measles, and considered that measles could recur two, three or four times; and he would beg leave to repeat the old story: "It eats like a toad, it looks like a toad, it creeps like a toad, hence why not call it a toad."

Dr. Adams, in referring to Dr. Jacobi's remarks regarding the great contagiousness of measles, described the admirable method of isolation in these cases in the Children's Hospital in Washington.

Dr. McDonald, of West Virginia, said that he had recently treated a large number of cases which differed in some respects from rubeola. He called it roseola, and the name became very popular with those who had the trouble.

Dr. Leigh, of Petersburg, reported two fatal cases of poisoning from chlorate of potash. The first was the case of a child three years of age with diphtheria. The mother gave the child one-half ounce of chlorate of potash, and the child died within twenty-four hours.

The second case was a child five years of age with croup. It took six drachms of chlorate of potash in twenty-four hours; cyanosis appeared in six hours; hæmaturia and death in forty-eight hours.

Dr. Potter remarked that in quite a large number of cases in his practice he had met rubeola and diphtheria occurring together.

Dr. Jacobi said that he had no doubt but that a number of deaths had occurred from chlorate of potash. When the blood

is examined the corpuscles are changed, broken up and irregular, and there is a conglomeration of hæmatin scattered about. There is no positive poisonous dose: 3½ drachms given for five or six days killed a robust boy of fourteen years. Dr. Jacobi had taken himself half an ounce, and this dose was followed frequently by micturition.

Dr. Fontaine knew a patient who took one ounce and died. Chlorate of potash is soluble in 18 or 20 parts of water. Dr. F. does not use more than a grain to a child under one year, or 1½ to an adult, in twenty-four hours.

In answer to a question as to whether measles ever occurred twice in the same person, Dr. Rotch stated that during the epidemic which had lately been prevailing in Boston the disease (measles) had been observed to occur not only twice, but three times in the same person.

Dr. Shelden, of Norfolk, in a long professional career had never seen measles recur.

Dr. Lee, of Baltimore, expressed surprise at Dr. Rotch's statement, and said that in his opinion true measles never recurred, and that where a second attack was apparently present, close investigation showed that it was the diagnosis which was at fault, and that the eruption, although simulating that of measles, was really that of the roseola spoken of by Dr. Jacobi in his paper. He also inquired of Dr. Rotch whether he could distinguish the eruption of measles from that of roseola, and from the eruption which apparently followed certain articles of diet, as crabs?

Dr. Rotch answered that he would first say, in order that there should be no confusion of terms, that there was a true measles and a rubeola (the rötheln of the German writers), as stated by Dr. Jacobi, and that so far as the eruption was concerned, it was often impossible to make a distinction; second, that roseola, which was usually a papular eczema, had nothing to do with the other diseases, and that in the great majority of cases the eruption caused by eating crabs was that of urticaria, which of course was easily distinguished from the eruption of measles; third, that he would again state that undoubted cases of rötheln had been

observed in Boston, where the disease is well recognized and differentiated from measles.

[The following should constitute the closing part of the third day's proceedings in General Session.]

NOMINATIONS.

The following report was read by Dr. Stone, of Minnesota:

The Committee on Nominations met at Wilkinson Hall, and organized by electing Dr. A. Coles, of New Jersey, as Chairman, and Dr. Stone, of Minnesota, as Secretary.

The following nominations were made:

For President, Dr. J. J. Woodard, U. S. A.

For Vice-Presidents, Doctors P. O. Hooper, Arkansas; L. Conner, Michigan; Eugene Grissom, North Carolina; and Hunter McGuire, Virginia.

Secretary, Dr. Wm. B. Atkinson, Pennsylvania.

Treasurer, Dr. R. J. Dunglison, Pennsylvania.

Librarian, Dr. Wm. Lee, Washington.

St. Paul, Minnesota, was selected as the place for the next Annual Meeting; and Dr. Stone was appointed Chairman of the Local Committee of Arrangements.

Dr. Billings, U. S. A., moved the adoption of the report of the committee; paid a high compliment to Dr. Woodward, the nominee for President, and thanked the committee, in behalf of the Medical Staff of the Army, for the high compliment paid it in the selection of one of its most honored members for the highest position in the gift of the Association.

The report of the committee was adopted unanimously.

A letter was received from H. C. Parsons, Vice-President of the Richmond and Alleghany Railroad, inviting the members of the Association to take a short trip on the above railroad. The invitation was accepted.

A number of recommendations as to the membership of the Association were presented by Dr. Toner, from the Judicial Council, and appropriately referred.

The next business in order was the consideration of the amendment to the Code of Ethics, which was continued from yesterday.

Dr. N. S. Davis, of Chicago, being entitled to the floor, proceeded to reply to the remarks of Dr. Dunster, in an able and lengthy argument, which was greeted with loud laughter and applause.

At the conclusion of Dr. Davis' remarks, the applause was loud and long-continued. The discussion was further continued by Doctors Martin, of Massachusetts, and Dunster, of Michigan.

Dr. Marcy moved to lay the amendment on the table indefinitely.

On motion, the ayes and noes were called, with the following result: Ayes, 106; noes, 108.

The further consideration of the amendment was postponed until to-morrow.

The next business was the consideration of the following amendment to the By-Laws, offered by Dr. J. M. Keller, of Arkansas:

"In the election of officers and appointment of committees by this Association and its President, they shall be confined to members and delegates present at the meeting, except in the Committee of Arrangements, Climatology and Credentials."

The amendment was adopted.

INDEX TO PROCEEDINGS.

PAGE.
FIRST DAY..... 673
President's Address..... 674
Report of the Foreign Delegates..... 681
SECOND DAY..... 682
Special Order—Amendment to Code of Ethics..... 682
Report on Necrology..... 683
Address of Dr. Wm. Pepper, Chairman of Section on *Practical Medicine*..... 684
Address of Dr. J. R. Chadwick, Chairman of Section on *Obstetrics* and *Diseases of Women and Children*..... 697
THIRD DAY..... 703
Address of Dr. Hunter McGuire, Chairman of Section on *Surgery*, on *Operative Interference in Gunshot Wounds of Peritoneum*... 703
Paper by Dr. J. S. Billings, U. S. A., on *Some of the Results of the Tenth Census as Regards Mortality Statistics*..... 707
Report by Dr. N. S. Davis, on *Clinical and Meteorological Records*. 711
FOURTH DAY..... 712
Amendment to Code of Ethics..... 713
Report of Committee on Nominations..... 713
Report of Committee on Official Position of Members of the Medical Staff of the Army and Navy..... 714
Resolutions of Thanks..... 714

PROCEEDINGS OF SECTIONS.

Section on Practice of Medicine, Materia Medica and Physiology:
First Day.—Blood-letting as a Therapeutic Measure in Pneumonia. By Dr. W. C. Wile..... 715
Second Day.—Is Croupous Pneumonia a Zymotic Disease? By Dr. Prentiss..... 721
Nature and Treatment of Pneumonia. By Dr. W. C. Dabney... 721
Third Day.—The Diet and Hygiene of Eczema. By Dr. L. Duncan Bulkley..... 724
Treatment of Diphtheria. By Dr. Whittaker..... 726
On the Production of Albuminuria by Use of Iodide of Potassium in Syphilitic Disease. By Dr. I. E. Atkinson..... 727
Variola Vacciniæ and Variola Equiniæ in Massachusetts. By Dr. Henry A. Martin..... 728
The Materia Medica of the Future. By Dr. F. E. Stewart..... 728

Section on Obstetrics and Diseases of Women: PAGE.

First Day.—Résumé of Rules for the use of Pessaries. By Dr. Paul F. Mundé 729

Second Day.—Investing Capsule of Uterine Fibroids. By Dr. F. C. Larrimore..... 734

Exhibit of the Uterine Dilators. By Dr. H. P. C. Wilson..... 735

Third Day.—Can we Make a Positive Diagnosis of Pregnancy Previous to the Occurrence of the Audible Sounds of the Fœtal Heart and the Detection of the Fœtal Movements? By Dr. Joseph Tabor Johnson..... 737

Section on Surgery and Anatomy:

First Day.—Exhibit of a Collection of Instruments. By Dr. Joseph H. Warren..... 741

Report of a Case of Pyonephrosis. By Dr. B. W. Allen..... 742

Second Day.—A New System of Surgical Mechanics. By Dr. Charles F. Stillman..... 743

Plastic Operations on the Face. By Dr. Alfred C. Post..... 744

Treatment of Arthritis of the Temporo-Maxillary Articulation. By Dr. D. H. Goodwillie 745

Third Day.—An Experimental and Clinical Inquiry into the Etiology and Distinctive Peculiarities of Traumatic Fever. By Dr. B. A. Watson..... 747

Labial Carbuncle or Malignant Pustule of the Lip. By Dr. Charles A. Leale..... 750

Section on State Medicine:

Second Day.—The National Board of Health and the International Sanitary Conference of 1881. By Dr. J. L. Cabell..... 753

On the Relation of the State to the Insane. By Dr. C. F. Folsom. 753

Cellars. By Dr. A. N. Bell..... 754

The Necessity and Means of Removing Putrescible Matters from Inhabited Places. By Dr. O. W. Wright..... 754

Section on Ophthalmology, Otology and Laryngology:

First Day.—On the Perimeter. By Dr. G. T. Stephens..... 754

Nasal Catarrh with Hypertrophy. By Dr. W. C. Jarvis..... 755

Treatment of Conical Cornea. By Dr. Chisholm..... 758

Second Day.—Syphilitic Laryngitis. By Dr. Carl Seiler..... 758

A Form of Tinnitus Induced by a Rhythmical Contraction of the Tensor Tympani Muscle. By Dr. Chisholm 760

Section on Diseases of Children:

First Day.—The Relation between Growth and Disease. By Dr. H. I. Bowditch..... 763

Some of the Causes of Infantile Eczema, and the Importance of Mechanical Restraint in its Treatment. By Dr. White..... 764

Second Day.—Treatment of Diphtheria. By Dr. R. J. Nunn..... 770

Third Day.—Middle-Ear Disease in Children in the Course of the Acute Exanthemata. By Dr. Blake..... 774